U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-255 248

# RED RIVER OF THE NORTH BASIN

ENVIRONMENTAL PROTECTION AGENCY

4 DECEMBER 1972

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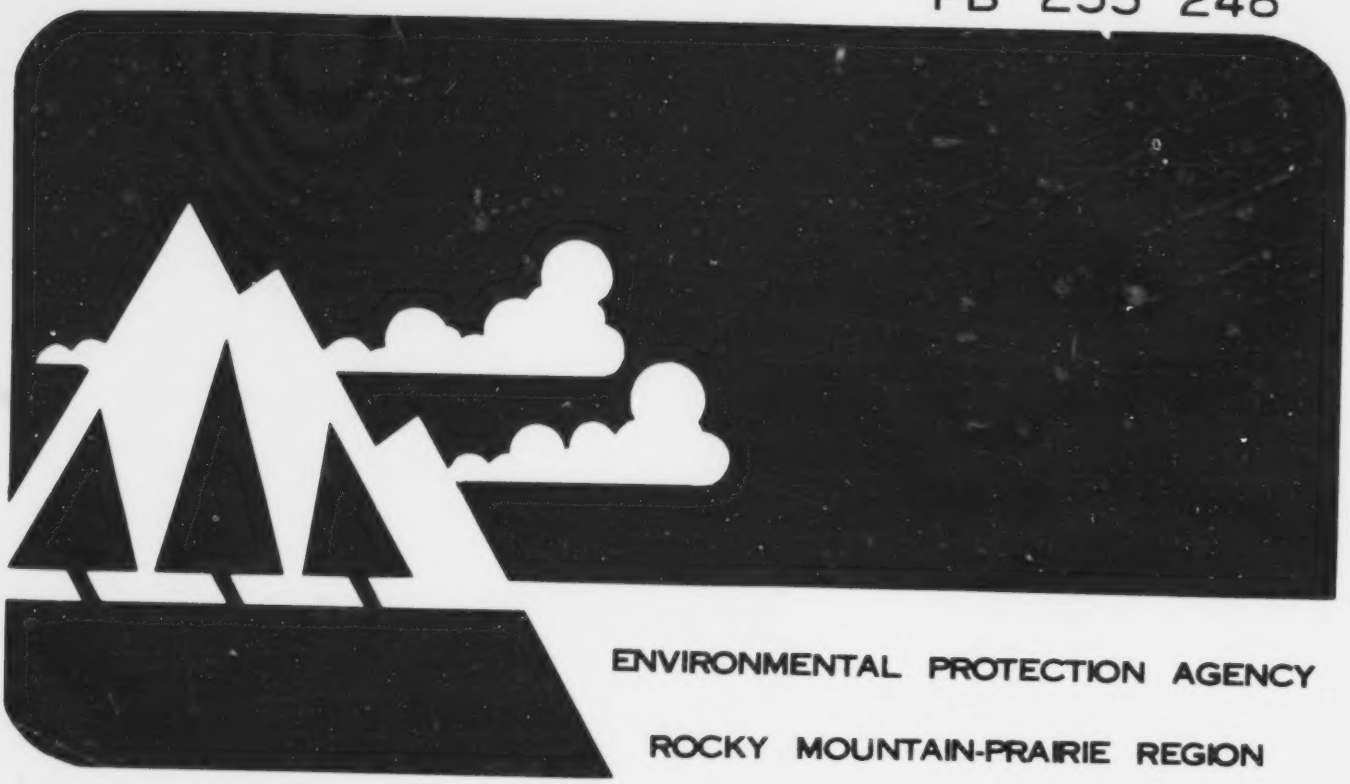
PB 255 248



ENVIRONMENTAL PROTECTION AGENCY

ROCKY MOUNTAIN-PRAIRIE REGION

REGION VIII

# RED RIVER OF THE NORTH BASIN

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DECEMBER 4, 1972

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The area of primary effort for Regional VIII in this Accomplishment Plan falls entirely within the State of North Dakota. Plans to reduce water pollution from industrial and municipal wastes are covered.

17. Key Words and Document Analysis. 17a. Descriptors

*Water quality,
*Red River of the North Basin,

Water pollution,
Waste waters,
Sewage,
Industrial wastes,
Red River Basin,
North Dakota,
Regional planning.

17b. Identifiers/Open-Ended Terms

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11. **Contract Grant Number.** Insert contract or grant number under which report was prepared.

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13. **Type of Report and Period Covered.** State interim, final, etc., and, if applicable, inclusive dates.

14. **Sponsoring Agency Code.** Leave blank.

15. **Supplementary Notes.** Enter information not included elsewhere but useful, such as: Prepared in cooperation with . . . Translation of . . . Presented at conference of . . . To be published in . . . Supersedes . . . Supplements . . . Cite availability of related parts, volumes, phases, etc. with report number.

16. **Abstract.** Include a brief (200 words or less) factual summary of the most significant information contained in the report. If the report contains a significant bibliography or literature survey, mention it here.

17. **Key Words and Document Analysis. (a). Descriptors.** Select from the Thesaurus of Engineering and Scientific Terms the proper authorized terms that identify the major concept of the research and are sufficiently specific and precise to be used as index entries for cataloging.
**(b). Identifiers and Open-Ended Terms.** Use identifiers for project names, code names, equipment designators, etc. Use open-ended terms written in descriptor form for those subjects for which no descriptor exists.
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SECTION A

Narrative

RED RIVER BASIN

## RED RIVE? - FIGURE 9

I. Priority Area Identification

The Red River of the North River Basin encompasses portions of the States of North Dakota, Iowa and Minnesota and the Dominion of Canada. The area of primary effort for Region VIII in this Accomplishment Plan falls entirely within the State of North Dakota. Just considering the mainstem of the Red River which borders Minnesota and North Dakota, and three major tributaries (Red Lake River in Minnesota, and the Sheyenne and Park Rivers in North Dakota), approximately 955 river miles are traversed. Seven hundred and eighty-two of these miles fall under North Dakota's jurisdiction. The entire basin covers approximately 38,000 square miles.

II. Problem Assessment

The Red River Basin involves three States, two EPA Regional Jurisdictions, and drains into Canada. Consequently, the problem includes institutional constraints and relations on an International, interstate, and inter-regional level. As a result, the effort is fragmented and the water pollution problem is not addressed with the full amount of resources that are available.

a. Although the North Dakota population is relatively small, 247,000 people in 1970, the limited availability of quality water supplies, the general widespread nature of the pollution problem and the international aspects combine to make this an important priority area.

b. Of the 782 river miles in North Dakota, 280 are estimated to be out of compliance with North Dakota's water quality standards some time during the water year.

c. The major industrial pollution in this basin results from the operations of sugar beet mills.

d. In 1965 an Enforcement Conference was convened in order to address the water quality problems in the Red River. The Conference made several recommendations regarding large municipal and industrial dischargers, including the four sugar beet mills. The recommendations of this Conference as they relate to North Dakota are reflected in this Basin Accomplishment Plan.

e. The North Dakota standards and implementation schedule are adequate. However, there is a problem of differing standards at the Minnesota-North Dakota state line that must be resolved.

f. All major waste sources are presently under a schedule of improvement and compliance so the main effort is directed toward seeing that the schedules are maintained. However, due to the diversity of wastes sources and the levels of nutrient loadings, full compliance with water quality standards is not assured.

g. Water quality surveys and plant effluent and discharge point stream monitoring will be carried out to determine if additional nutrient removal by point sources is required. Otherwise, no additional treatment needs are identified at this time.

Another significant problem is the discharging of wastewater effluent under ice thus causing an oxygen depletion. In North Dakota, all the municipal systems except for Fargo, hold their effluent through the winter and discharge during the Spring and Fall months. Fargo is in the process of constructing a 580-acre lagoon which will provide storage of its effluent through the winter. American Crystal Sugar at Drayton is constructing a recycling unit whereby the majority of its effluent will not reach the stream system.

Because most dischargers release their wastes during Spring and Fall which are also the times of peak sugar beet processing, a large slug loading is experienced upon the river system at these times. Proposed surveys in this plan should provide the additional information needed to determine the stream effects of this practice and any necessary recommendations for remedies. Special problems may also come as a result of the low flows at reduced velocities that prevent the river from being adequately flushed, thus, nutrient balance and siltation may be more troublesome than in most other cases.

h. The Basin covers part of three states, and the Dominion of Canada, thus there are some interstate and international relations questions to be considered.

i. Since the Basin also cuts across two EPA regions, Regions V and VIII, and Region V has not designated the Red River Basin as a priority basin, special coordination needs to be developed to assure proper water quality management in the area.

III. Agency and/or Operational Objectives

It is EPA's objective to insure instream water quality standards are not violated. The Regional office is utilizing (1) North Dakota State's effluent requirements for municipal dischargers and (2) EPA/Industry commitments as criteria for reaching this objective*. These criteria are:

| | |
|---|---|
| Municipal WWTP | 25 mg/l $BOD_5$ in effluent<br>30 mg/l TSS in effluent |
| Sugar Beet Industry | $BOD_5$ = 5#/Ton sliced beets processed<br>Fecal Coliform = 75 x $10^6$/Ton slided beets processed |

By FY 75, the $BOD_5$ effluent requirements will be met by North Dakota. An additional reduction of 356# TSS will be needed in FY 76 in order to maintain compliance with the criterion. These conclusions apply to North Dakota's portion of the pollution loading since no effluent criteria have been established for industries in Minnesota.

Projected reductions to be realized by FY 73 and 74 are:

| | FY 73 | FY 74 |
|---|---|---|
| $BOD_5$ | 60794 #/Day | 65248 #/Day |
| TSS | 13420 #/Day | 58456 #/Day |

The DFIC Survey to be completed June 73 should reveal whether or not recent improvements to several wastewater treatment plants in the basin have resulted in water quality improvements.

IV. Approach

The objectives outlined above will be achieved through the following program elements and their listed activities:

1. Refuse Act Permits (3B2124) - obtain commitments* to reduce pollution loadings from several key industries.

2. Municipal Waste Treatment Construction Grants (2B8164) - help finance the construction of several new wastewater treatment plants and wastewater treatment plant improvements which will increase plant efficiency or solve some other water quality problem.

3. Water Quality Planning (2B3149) - approve a comprehensive water quality management plan which will provide guidance for effective management of the water quality.

4. O&M, Water Quality Monitoring, Water Pollution Source Surveillance and Water Quality Enforcement (2B8163), (2B2147), (2B2148), (3B1123) - assess impact of improvements and carry out implementation schedules.

*These commitment actions will be immediately converted to permit actions under the new legislation as soon as guidelines are available.

5. Environmental Impact Statements Review (2B6117) - assure that responsibilities assigned to EPA via the NEPA are observed and environmental quality maintained and protected.

SECTION B

Basin Load Summary

PRIORITY BASIN WORK SHEET

Date 3/72

STORET Minor Basin ID No. 0701

Region VIII

State(s) ND-MINN

Name of Basin Red River of the North

1. Area covered:

Entire Basin

2. Water quality objectives:

| Parameter | (a) Current criteria (see WQS) mg/l | (b) EPA Objective: Minimum Acceptable Ambient Level (See Table 4) mg/l | (c) Actual Level at Worst Time of Yr. (See Table 2) mg/l | Accuracy (% +) (Regional est.) ± % |
|---|---|---|---|---|
| $BOD_5$ | $BOD_5$-25 mg/l effluent stds | same as current criteria | | |
| TSS | TSS -30 mg/l effluent stds | same as current criteria | | |
| DO | DO 5.0 mg/l | Stds. for instream | .9 mg/ℓ | 2% |
| Total Coliform | Total Coliform - 5000/100 ml | instream | 90,000.100 ml. | 2% |

3. Estimated pollution load--all sources (average FY 72):

| | Load (See Table 4) pounds/day | Accuracy (% ±) ± % |
|---|---|---|
| $BOD_5$ | 80283 | 10% |
| TSS | 83517 | 10% |

4. Estimated pollution load reduction required to meet EPA water quality objectives derived from 2(c) - 2(b):

| | Required Reduction (≤ of Table 4) pounds/day | Accuracy (% ±) ± % |
|---|---|---|
| $BOD_5$ | 67810 | 10% |
| TSS | 64675 | 10% |

5. Reduction firmly committed by FY 72 and prior year actions:

| | Year of Actual Reduction | | | |
|---|---|---|---|---|
| | FY 73 | FY 74 | FY 75 | FY 76 |
| | lbs/day | lbs/day | lbs/day | lbs/day |
| $BOD_5$ | 60794 | 65248 | 65248 | 65248 |
| TSS | 13420 | 58456 | 58456 | 58456 |

6. Additional reductions to be obtained by FY 73 and FY 74 commitments:

| | Year of Actual Reduction | | | | |
|---|---|---|---|---|---|
| | FY 73 | FY 74 | FY 75 | FY 76 | (See Table 4) |
| | lbs/day | lbs/day | lbs/day | lbs/day | |
| $BOD_5$ | | | 2750* | 2750 | *To be negotiated with industry. |
| TSS | | | 9730 | 9730 | |

9<

7. Increases in pollution discharges expected:

| | Year of Actual Increase | | | |
|---|---|---|---|---|
| | FY 73 | FY 74 | FY 75 | FY 76 |
| | lbs/day | lbs/day | lbs/day | lbs/day |
| $BOD_5$ | 136 | 272 | 408 | 544 |
| TSS | 570 | 1140 | 1710 | 2280 |

8. Total reductions to be obtained--sum of 5 and 6 above:

| | Year of Actual Reduction | | | |
|---|---|---|---|---|
| | FY 73 | FY 74 | FY 75 | FY 76 |
| | lbs/day | lbs/day | lbs/day | lbs/day |
| $BOD_5$ | 60794 | 65248 | 67998 | 67998 |
| TSS | 13420 | 58456 | 68186 | 68186 |

9. Total reductions required--sum of 4 and 7 above:

| | Year of Actual Reduction | | | |
|---|---|---|---|---|
| | FY 73 | FY 74 | FY 75 | FY 76 |
| | lbs/day | lbs/day | lbs/day | lbs/day |
| $BOD_5$ | 67946 | 68082 | 68218 | 68354 |
| TSS | 65245 | 65815 | 66380 | 66950 |

10. Year in which minimum acceptable water quality levels are to be achieved--compare 8 and 9 above:
TSS - FY 75 $BOD_5$ - need additional commitment of 356# during FY 76 (To be determined prior to FY 76).

11. If figures for items 2 through 7 above are not available, please provide estimate of when they will become available through monitoring and other activities:

Are items 3, 5, and 6 above derived from detailed discharger inventories?

The best available.

12. Key pollutants, if any, for which a weight or other quantity measure is not appropriate:

(Note special problems and comments).

Figure 10 - Continued

SECTION C

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Regional Administrato | 3. Sub-Element No.: 5T1214 | 4. Sheet No.: 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code: 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS |
|---|---|---|---|
| | 1 | Nov. 72 | Meet with Regional Administrator of Region V to develop a working agreement between the two Regions to accomplish a total basin WQM strategy. |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| b .016 | | a. | b. | 9-22-72 | | |

Planned Accomplishments

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# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title | 3. Sub-Element No. 2B3149 | 4. Sheet No. 1 of 3 |
|---|---|---|---|
| | 5. Geographical Area Title | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | June 76 | Bring about the integration of North Dakota's and Minnesota's Water Quality Management Plan through inter-agency cooperation. | .5 | .6 |
| | 2 | June 76 | Review and monitor development of the Water Quality Management Plan to fulfill the requirements of 40CFR 35. | .4 | .8 |
| | 3 | June 76 | Assist North Dakota in the basin planning activities for the Red River of the North. | .5 | .6 |
| | 4 | July 73 | Review and approve Water Quality Management Plan for Red River of the North including Fargo SMSA | 1.0 | .6 |
| | 5 | May 74 | Assess impact of new legislation upon Water Quality Management Planning and the Facilities Management Grants Program. | .50 | .50 |
| | 6 | Sep 73 | Work with Region V, HUD, N.D., Minnesota and Fargo-Moorhead SMSA to set up areawide planning organization. | 50 | .7 |
| | 7 | Oct 73 | Model the Red River of the North using a Simplified Math Model. | 1.0 | 1.0 |
| | 8 | Oct 73 | Review the results of DFIC's proposed Water Quality Survey of the Red River and recent wastewater treatment plant improvements. | 0 | .40 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Revised by & Date | 16. Approved for EPA |
|---|---|---|---|---|---|---|
| a. | b. | a. | b. | TA 9-25-72 | | |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Water Quality Planning | 3. Sub-Element No. 2B3149 | 4. Sheet No. 2 of 3 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 9 | June 76 | Review and coordinate State Program Plans with Water Quality Management plans and construction grants program. | .5 | .5 |
| | 10 | | Review and process seven construction grant applications to determine their compliance with water quality management plans | .6 | 1.3 |
| | | Feb. 73 | a. Amenia WWTP | | |
| | | June 75 | b. Fargo Interceptor | | |
| | | June 75 | c. Grafton Interceptor | | |
| | | June 75 | d. Grand Forks Interceptor | | |
| | | June 75 | e. Valley City Interceptor | | |
| | | June 75 | f. Wahpeton Interceptor | | |
| | | June 75 | g. West Fargo Interceptor | | |
| | 11 | June 76 | Participate in seven preapplication meetings (See Table 3). | .2 | .6 |
| | 12 | June 76 | Assess environmental impact of BOR's Garrison Diversion Project. | .2 | .4 |
| | 13 | | Evaluate the water quality effects of 4 proposed COE projects within the Red River Basin. | 0 | 0 |
| | | June 76 | a. Kindred Reservoir; b. Twinn Valley; c. Park River; and d. Crookston Reservoirs. | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for EPIC |
|---|---|---|---|---|---|---|
| a. | b. | a. | b. | TA 9-25-72 | | |

## PLANNED ACCOMPLISHMENTS SCHEDULE



| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Water Quality Planning | 3. Sub-Element No.: 2B3149 | 4. Sheet No.: 3 of 3 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code: 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 14 | JUN 76 | Influence N.D. and following municipalities to provide nutrient removal, if such a need is determined. | | |
| | | | a. Fargo, N.D. - WWTP | 0 | .3 |
| | | | b. Grafton, N.D. - WWTP Imp. | 0 | .3 |
| | | | c. Wahpeton, N.D. - WWTP Imp. | 0 | .0 |
| | | | d. Valley City, N.D. - WWTP Imp. | 0 | 0 |
| | 15 | JUN 73 | Encourage State and municipalities to expedite plant construction | .05 | .2 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .50 | b. | a. .75 | b. | | | |

# PLANNED ACCOMPL. .IMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title MUNICIPAL WASTE TREAT_ MENT CONSTRUCTION GRANTS | 3. Sub-Element No. 288162 | 4. Sheet No. 1 Of 3 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | | Conduct preapplication meetings for 7 projects listed on 1 and 5 year needs list | | |
| | | | (See Table 3) | | |
| | | Feb 73 | a. Amenia WWTP (1 year needs list) | .2 | 0 |
| | | June 75 | b. Fargo Interceptor (5 year needs list) | | |
| | | June 75 | c. Grafton Interceptor (5 year needs list) | | |
| | | June 75 | d. Grand Forks Interceptor (5 year needs list) | | |
| | | June 75 | e. Valley City Interceptor (5 year needs list) | | |
| | | June 75 | f. West Fargo Interceptor (5 year needs list) | | |
| | | June 75 | g. Grafton Interceptor (5 year needs list) (3 of 6) | .0 | .6 |
| | 2 | | Complete the processing of construction grant applications and grant awards for 13 | | |
| | | | projects (See Table 3) | | |
| | | Aug 72 | a. Valley City WWTP Imp. | .3 | 0 |
| | | June 73 | b. Abercrombie WWTP | 1 | 0 |
| | | Aug 73 | c. Grafton WWTP Imp. | 1.2 | 1.2 |
| | | Aug 73 | d. Wahpeton WWTP Imp. | .3 | .5 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. | b. | a. | b. | | | |

Planned Accomplishments

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# PLANNED ACCOMPL. .MENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | | | 2. Program Sub-Element Title: Municipal Waste Treatment Construction Grants | | | 3. Sub-Element No.: 2B8162 | 4. Sheet No.: 2 Of 3 |
|---|---|---|---|---|---|---|---|
| | | | 5. Geographical Area Title: Red River of the North | | | 6. Geo. Area Code: 0701 | 7. Priority |
| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | | | |
| | | Sep 73 | e. Fargo WWTP | .1 | 1.0 | | |
| | | Oct 73 | f. Fargo Water Filtration | .1 | 1.2 | | |
| | | Oct 73 | g. Amenia WWTP | 1 | 1.2 | | |
| | | Jun 76 | h. Fargo Interceptor | 0 | 3.0 (3 of 6) | | |
| | | Jun 76 | i. Grafton Interceptor | | | | |
| | | Jun 76 | j. Grand Forks Interceptor | | | | |
| | | Jun 76 | k. Valley City Interceptor | | | | |
| | | Jun 76 | l. Wahpeton Interceptor | | | | |
| | | Jun 76 | m. West Fargo Interceptor | | | | |
| | 3 | Feb 74 | Work with State to improve the quality and frequency of inspections and | | | | |
| | | | O&M surveys | | .3 .3 | | |
| | 4 | Oct 73 | Review DFIC's report that results from their survey of several WWTP's along the | | | | |
| | | | main stem of the Red River | | 0 .25 | | |
| | 5 | Jun 76 | Use State program plans to coordinate administration of construction grants | | | | |
| | | | | | 1.25 1.25 | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. | b. | a. | b. | | | |

Planned Accomplishments

17<

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Municipal Waste Treatment (Construction Grants) | 3. Sub-Element No.: 2B8162 | 4. Sheet No.: 3 Of 3 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code: 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 6 | June 76 | Update 1 and 5 year needs list | .3 | .3 |
| | 7 | | Influence ND and the following municipalities to provide nutrient removal if such a need is determined. | | |
| | | June 76 | a. Fargo, North Dakota - WWTP | | |
| | | June 76 | b. Grafton, North Dakota - WWTP Imp | | |
| | | June 76 | c. Wahpeton, North Dakota - WWTP Imp | | |
| | | June 76 | d. Valley City, North Dakota - WWTP Imp | | |
| | 8 | | Encourage state and municipalities to expedite plant construction. | .05 | 0 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .50 | b. | a. .90 | b. | | | |

Planned Accomplishments

# PLANNED ACCOMPL. .MENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | | | 2. Program Sub-Element Title REGIONAL MANAGEMENT | 3. Sub-Element No. 5T1214 | 4. Sheet No. 1 Of 1 |
|---|---|---|---|---|---|
| | | | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |
| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
| | 1 | Nov 72 | Encourage national funding of an environmental film to be used in Region VIII | .25 | 0 |
| | 2 | June 76 | Distribute to the news media items on environmental issues relating to the Red River Basin | .5 | .5 |
| | 3 | June 76 | Determine whether 7 construction grant projects satisfy the Equal Employment Act requirements | .25 | .75 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .08 | b. | a. 1.0 | b. | | | |

Planned Accomplishments

# PLANNED ACCOMPL. .MENTS SCHEDULE



| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Construction Grants Adm. | 3. Sub-Element No. 2B8316 | 4. Sheet No. 1 Of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No | 10. Sched Date of Comp. | 11. Process seven new applications and complete seven others — PLANNED ACCOMPLISHMENTS | | | |
|---|---|---|---|---|---|---|
| | 1 | Aug 73 | a. Valley City WWTP Imp | | .2 | .1 |
| | | Oct 73 | b. Park River Interceptor | | .1 | 0 |
| | | Apr 74 | c. Fargo WWTP | | .3 | .1 |
| | | Apr 74 | d. Fargo Water Treatment | OLD | .3 | .1 |
| | | May 74 | e. Abercrombie WWTP | | .3 | .1 |
| | | May 74 | f. Wahpeton WWTP Imp. | | .3 | .1 |
| | | Jun 74 | g. Grafton WWTP Imp. | | .3 | .1 |
| | | May 74 | h. Amenia WWTP | | .2 | .1 |
| | | Jun 76 | i. Fargo Interceptor | | .0 | .5 |
| | | Jun 76 | j. Grafton Interceptor | | .0 | .5 |
| | | June 76 | k. Grand Forks Interceptor | NEW | 0 | .5 |
| | | Jun 76 | l. Valley City Interceptor | | 0 | .1 |
| | | Jun 76 | m. Wahpeton Interceptor | | 0 | .2 |
| | | June 76 | n. W. West Fargo Interceptor | | 0 | .5 |
| | | | | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .16 | b. | a. .25 | b. | | | 2/< |

Planned Accomplishments

# PLANNED ACCOMPL. .IMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title 0 & M | 3. Sub-Element No. 2B8163 | 4. Sheet No. 1 of 2 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | | Conduct 14 O & M inspections of completed or to be completed WWTP (See Table 3) | | | | | |
| | | Aug 73 | a. Valley City WWTP Improvements | .0 | .30 | | | |
| | | Apr. 74 | b. Fargo WWTP | 0 | .30 | | | |
| | | Apr. 74 | c. Fargo Water Filtration | 0 | .30 | | | |
| | | May 74 | d. Amenia WWTP | 0 | .30 | | | |
| | | May 74 | e. Abercrombie WWTP | 0 | .30 | | | |
| | | May 74 | f. Wahpeton WWTP Improvements | 0 | .30 | | | |
| | | Jun 74 | g. Grafton WWTP Improvements | 0 | .30 | | | |
| | | Oct 74 | h. Park River Interceptor Ext. Force Main & Lift Station | | | .30 | 0 | |
| | | Jun 76 | i. Fargo Interceptor " " " " " " | | | | | |
| | | Jun 76 | j. Grafton Interceptor " " " " " " | | | | | |
| | | Jun 76 | k. Grand Forks Interceptor " " " " " " | | | | | |
| | | Jun 76 | l. Valley City Interceptor " " " " " " | | | .0 (3 Of 6) | 1.00 | |
| | | Jun 76 | m. Wahpeton Interceptor " " " " " " | | | | | |
| | | Jun 76 | n. West Fargo Interceptor " " " " " " | | | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. | b. | a. | b. | | | 21< |

Planned Accomplishments

# PLANNED ACCOMPL. .MENTS SCHEDULE



| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title O & M | 3. Sub-Element No. 288163 | 4. Sheet No. 2 Of 2 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 2 | Feb 74 | Work with State to improve O & M and sampling procedures | .6 | .2 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .08 | b. | a. .25 | b. | | | 22< |

Planned Accomplishments

# PLANNED ACCOMPLI ENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Water Pollution Source Surv. | 3. Sub-Element No. 2B2148 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | | Conduct monitoring study of 4 wastewater treatment plants if needed | | |
| | | | to determine the impacts of improvements upon water quality. | | |
| | | May 74 | a. Fargo WWTP | 0 | .25 |
| | | Oct 75 | b. Fargo Water Treatment | 0 | 0 |
| | | Oct 74 | c. Grafton WWTP Imp | 0 | 0 |
| | | Oct 74 | d. Wahpeton WWTP Imp. | 0 | 0 |
| | 2 | June 76 | Obtain water quality data to be imputted into STORET. | .75 | .75 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. 06 | b. | a. .08 | b. | TA 9-22-72 | | 23< |

Planned Accomplishments

# PLANNED ACCOMPLI. :ENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Refuse Act Permits | 3. Sub-Element No. 3B2 124 | 4. Sheet No. 1 of 4 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | | USDI Valley City National Fish Hatchery | | |
| | | May 73 | a. Obtain committment to minimize pollution load | .4 | 0 |
| | 2 | | Pillsbury-Grand Forks | | |
| | | July 74 | a. Meet with company & State to develop DS stds | 0 | 1.0 |
| | | Dec 74 | b. Develop effluent concentrations for plant through RAPP | 0 | 0 |
| | | Feb 75 | c. Obtain a committment letter | | |
| | 3 | | Minnkota Power Coop - Grand Forks | | |
| | | March 73 | a. Continue meetings with company to develop effluent standards | 1.0 | 0 |
| | | May 73 | b. Obtain committment letter | .4 | 0 |
| | | June 76 | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. See last | b. page | a. | b. | IA 9/21/72 | | 24< |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Refuse Act Permits | 3. Sub-Element No. 3B2124 | 4. Sheet No. 2 of 4 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 4 | | Otter Tail Power Co. - Wahpeton | | |
| | | June 73 | a. Develop effluent criteria through RAPP | .4 | 0 |
| | | Sept 73 | b. Obtain committment letter | 0 | .6 |
| | | | | | |
| | | | | | |
| | 5 | | USDI Baldhill Dam Nat'l Fish Hatchery - Valley City | | |
| | | May 73 | a. Obtain committment to minimize pollution load | .4 | 0 |
| | | | | | |
| | | | | | |
| | 6 | | American Crystal Sugar, Drayton | | |
| | | March 73 | a. Meet with company to resolve conflict over BODs std | .90 | 0 |
| | | June 73 | b. Obtain another committment letter | .30 | 0 |
| | | | | | |
| | | | | | |
| | | | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. Sec | b. last page. | a. | b. | TA-21-72 | | 25< |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Refuse Act Permits | 3. Sub-Element No.: 3B2124 | 4. Sheet No.: 3 of 4 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code: 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 7 | | Armour Food - West Fargo | | |
| | | Feb 73 | a. Negotiate with company to have them use the city sewer | .90 | 0 |
| | | June 73 | b. Obtain commitment letter | .20 | 0 |
| | | | | | |
| | 8 | | | | |
| | | Jan 73 | a. Continue negotiations with company to define effluent criteria | .4 | 0 |
| | | Mar 73 | b. Obtain commitment letter | 0 | .60 |
| | | | | | |
| | 9 | Jun 73 | Review the water quality management plan for Red River Basin and | | |
| | | | Fargo-Moorhead SMSA | .4 | 0 |
| | 10 | June 75 | Establish a joint monitoring system with Region V to assess impacts | | |
| | | | of RAPP activities in Minnesota portion of Red River Basin. Continue program. | 0 | 5.0 |
| | 11 | | American Crystal Sugar, Moorhead | - | |
| | | May 73 | a. Meet with Region V, Minnesota and industry to agree upon | | |
| | | | effluent limitations | 1.0 | 0 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. Se | b. last page. | a. | b. | | | 26< |

Planned Accomplishments

# PLANNED ACCOMPLI' 'ENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | | | 2. Program Sub-Element Title Refuse Act Permits | | 3. Sub-Element No. 3B2124 | 4. Sheet No. 4 of 4 |
|---|---|---|---|---|---|---|
| | | | 5. Geographical Area Title Red River of the North | | 6. Geo. Area Code 0701 | 7. Priority |
| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | | |
| | 11 | July 74 | b. Obtain commitment letter (Work with Region V) | | .1 | 0 |
| | 12 | | American Crystal Sugar, E. Grand Forks | | | |
| | | May 73 | a. Meet with Region V, Minnesota, and industry to agree upon effluent limitations | | 1.0 | 0 |
| | | July 74 | b. Obtain commitment letter (Work with Region V) | | .1 | 0 |
| | 13 | | American Crystal Sugar, Crookston | | | |
| | | May 73 | a. Meet with Region V, Minnesota, and industry to agree upon effluent limitations | | 1.0 | 0 |
| | | July 74 | b. Obtain commitment letter (Work with Region V) | | .1 | 0 |
| | | June 75 | c. Monitor stream and effluent to detect pollution levels | | .0 | 0 |
| | 14 | Sept 73 | | | 2.0 | 1.0 |
| | 15 | June 76 | | | | 1.6 |
| | 16 | June 76 | Data Processing of Permits | | 1.0 | 2.2 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. 1.0 | b. | a. 1.0 | b. | T.A. 9-25-72 | | |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Environmental Impact | 3. Sub-Element No. 2B6117 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | JUN 73 | Review contents of Water Quality Management plans for Red River Basin | .3 | .3 |
| | | | and Fargo-Moorhead SMSA | | |
| | 2 | JUN 76 | Evaluate environmental assessment for the water quality management plans, Red | | |
| | | | River Basin and Fargo-Moorehead SMSA & 7 construction grant applications | 1.5 | 1.0 |
| | | | a. Amenia WWTP | | |
| | | | b. Fargo Interceptor | | |
| | | | c. Grafton Interceptor | | |
| | | | d. Grand Forks Interceptor | | |
| | | | e. Valley City Interceptor | | |
| | | | f. Wahpeton Interceptor | | |
| | | | g. West Fargo Interceptor | | |
| | 3 | JUN 76 | Coordinate with Bureau of Reclamation in the development of the EIS | .3 | .3 |
| | | | for the Garrison Reservoir Water Project. | | |
| | | | | | |
| | | | | | |
| | | | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. .18 | b. | a. .11 | b. | TA 9-25-72 | | |

Planned Accomplishments

# PLANNED ACCOMPL..IMENTS SCHEDULE

PAGE ..

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Water Quality Standards | 3. Sub-Element No. 2B1143 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | OCT 73 | Provide standards input to water quality model, develop & use model | 1.2 | 2.0 |
| | 2 | JUN 73 | Review N.D. standards and determine need for changing the use | | |
| | | | classifications. Check compatibility with Minnesota Water | | |
| | | | Quality Standards and pending legislation. | .5 | 0 |
| | | | | | |
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| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. .15 | b. | a. .16 | b. | TA 9-22-72 | | |

Planned Accomplishments

## PLANNED ACCOMPLISHMENTS SCHEDULE

Reproduced from best available copy.



| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Water Pollution Control Agency Grants | 3. Sub-Element No. 2B4153 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | .1 | Oct 73 | Review SEIC survey report and determine whether State 1 and 5 year needs list to be changed. | 0 .25 | |
| | .2 | June 76 | Review, coordinate, and approve N. D. State Program Plan | 1.25 | 1.25 |
| | .3. | June 76 | Update 1 and 5 year needs list | .3 | .3 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. .13 | b. | a. .15 | b. | TA 9-22-72 | | 30< |

Planned Accomplishments

# PLANNED ACCOMPL. .MENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Water Quality Info. System | 3. Sub-Element No. 2B2146 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | Oct 72 | Retrieve WQ data for math model | .15 | 0 |
| | 2 | Jun 76 | Input water quality data to STORET and retrieve water quality data for the basin | | |
| | | | when requested. | 1.0 | .15 |
| | 3 | Jun 76 | Update 1 and 5 year needs list | .3 | .3 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. .12 | b. | a. .15 | b. | TA 9-22-72 | | 31< |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Water Quality Enforcement | 3. Sub-Element No. 3B1123 | 4. Sheet No. 1 of |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | JUN 73 | Review Water Quality Management Plan for the Red River Basin and | | |
| | | | Fargo-Moorhead SMSA. | .3 | .0 |
| | 2 | | Influence N.D. and the following municipalities to provide nutrient removal if such | | |
| | | | a need is determined. | | |
| | | JUN 75 | a. Fargo, N.D. - WWTP | 0 | .2 |
| | | " | b. Grafton, N.D. - WWTP Imp. | 0 | .15 |
| | | " | c. Wahpeton, N.D. - WWTP Imp. | 0 | 0 |
| | | " | d. Valley City, N.D. - WWTP Imp. | 0 | 0 |
| | 3 | SEP 74 | Reconvene Enforcement Conference & Publish Report | 5.0 | 3.0 |
| | 4 | JUN 76 | Follow-up on recommendations coming from the enforcement | 0 | 2.5 |
| | | | Conference. | | |
| | 5 | JUN 73 | Follow-up on the compliance schedule of Fargo's 180-day notice | .30 | .2 |
| | 6 | JUN 76 | Determine necessity of enforcement action for Drayton and other | | |
| | | | possible potential 180-day notices (e.g. Drayton) | 1.5 | 1.4 |
| | | | | | |
| | | | | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. | b. | a. | b. | TA 9-22-72 | | 32< |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Water Quality Enforcement | 3. Sub-Element No.: 3B1123 | 4. Sheet No.: 2 of 2 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code: 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 7 | JUL 74 | Assist Enforcement in obtaining commitment letters for 11 industries | 2.0 | .6 |
| | 8 | JUN 76 | Evaluate the results of S&A's monitoring of the stream and effluent for the 11 industries from which commitments were obtained. | 0 | 2.0 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .77 | b. | a. .91 | b. | | | 33< |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Technical Support & Assist. | 3. Sub-Element No. 2B5154 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS |
|---|---|---|---|
| | 1 | June 73 | Coordinate with and assist DFIC in a stream survey that is intended to see if in-stream water quality has improved as a result of improvements to certain wastewater treatment plants. 0.5 0 |
| | 2 | June 74 | Supplement the DFIC Survey to determine the water quality impact of subsequent actions for improving water quality. 0 4.0 |
| | 3 | June 74 | Conduct a water quality survey to determine a nutrient balance of the Red River System. 0 10 |
| | 4 | June 73 | Review Water Quality Management Plan for Red River Basin and Fargo-Moorhead SMSA. .3 0 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .04 | b. | a. 1.2 | b. | JA 9-22-72 | | |

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Water Quality Monitoring | 3. Sub-Element No. 2B2147 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | FEB 73 | Supplement O&M effort to assure effective monitoring of the Water Quality Impact of WWTP improvements and/or construction. | .2 | .0 |
| | 2 | JUN 76 | Work with Enforcement and Permits Branches to effectively monitor effluent discharged from industrial sources. | .0 | 2.5 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. .02 | b. | a. .21 | b. | I.A. 9-22-72 | | |

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Manpower Planning | 3. Sub-Element No. 2B7161 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | .1 | June 76 | Work with State on developing manpower planning function | .2 | .2 |
| | 2 | June 76 | In-house manpower planning - employment and training project | .5 | .5 |
| | | | | | |
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| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
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| a. .06 | b. | a. .06 | b. | TA 9-22-72 | | |

Planned Accomplishments

# PLANNED ACCOMPLISHMENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title: Direct training - Water | 3. Sub-Element No.: 2B7160 | 4. Sheet No.: 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title: Red River of the North | 6. Geo. Area Code | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | June 76 | Assist O&M (2B8163) on the inspections of completed municipal wastewater facilities projects (14) | .05 | .45 |
| | 2 | APR 74 | a. Fargo WWTP | 0 | .05 |
| | | APR 74 | b. Fargo Water Treatment | 0 | .05 |
| | | JUN 74 | c. Grafton WWTP Imp. | 0 | .05 |
| | | OCT 72 | d. Park River Interceptor | .05 | 0 |
| | | MAY 74 | e. Amenia WWTP | 0 | .05 |
| | | MAY 74 | f. Abercrombie WWTP | 0 | .05 |
| | | MAY 74 | g. Wahpeton WWTP Imp. | 0 | .05 |
| | | AUG 73 | h. Valley City WWTP Imp. | 0 | .05 |
| | | JUN 76 | i. Fargo Interceptor | | |
| | | JUN 76 | j. Grafton Interceptor | | |
| | | JUN 76 | k. Grand Forks Interceptor | 0 | .15 |
| | | JUN 76 | l. Valley City Interceptor | (3 of 6) | |
| | | JUN 76 | m. Wahpeton Interceptor | | |
| | | JUN 76 | n. W. Fargo Interceptor | | |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .004 | b. | a. .04 | b. | T.A. 9-22-72 | | |

Planned Accomplishments

# PLANNED ACCOMPLI. ENTS SCHEDULE

| 1. Type of Plan a. ☐ Sub-Element b. ☐ Part. Sub-Elem. c. ☐ Geo. Area | 2. Program Sub-Element Title Operator Training - Water | 3. Sub-Element No. 2B7158 | 4. Sheet No. 1 of 1 |
|---|---|---|---|
| | 5. Geographical Area Title Red River of the North | 6. Geo. Area Code 0701 | 7. Priority |

| 8. Code | 9. No. | 10. Sched Date of Comp. | 11. PLANNED ACCOMPLISHMENTS | | |
|---|---|---|---|---|---|
| | 1 | Dec 72 | Monitor training course in Wahpeton | .3 | 0 |
| | 2 | Jul 73 | Monitor training course in Grand Forks | .3 | 0 |
| | 3 | June 76 | Continue training support in Red River | .4 | 1.0 |
| | 4. | June 76 | Coordinate Field Study Training Program | .1 | .1 |

| 12. FY 1973 | | 13. FY 1974 | | 14. Prepared by & Date | 15. Reviewed by & Date | 16. Approved for RPIO |
|---|---|---|---|---|---|---|
| a. .09 | b. | a. .09 | b. | TA 9-22-72 | | |

Planned Accomplishments

PRIO Y BASIN ACCOMPLISHMENTS: SEMI-ANNUAL PREPARATIONS IN TONES REPORT

DATE SUBMITTED: _____

REGION VIII _____ HALF, 19 72

BASIN: Red River of the North

FORM VI

PREPARED BY: Terry Anderson (Name) General Engineer (Title) TEL. _____

APPROVED BY: _____ (Name) _____ (Title) _____ (Initials)

Reproduced from best available copy.

| MILESTONES | DATE MILESTONE ATTAINED or TO BE ATTAINED | LIST ANY MISSING OR INADEQUATE PREPARATIONS AND INDICATE FOR EACH PERIOD IN CURRENT STATUS. DISCUSS THOSE NEEDING HEADQUARTERS ATTENTION, INCLUDING REASONS, CORRECTIVE MEASURES, AND IMPLICATIONS FOR FUTURE PROGRESS. USE SUPPLEMENTARY SHEETS AS NECESSARY. |
|---|---|---|
| CRITICAL WQ DATA OBTAINED No | | Instream Water Quality needs to be correlated more closely with those times when discharges are permitted. |
| CRITICAL EFFLUENT DATA OBTAINED NO | | North Dakota requires holding of waste during ice cover. However, insufficient data exists that identifies what slug loadings occur during discharge. |
| NECESSARY MODELING COMPLETED NO | OCT 1972 | Model is underway. |
| 108(B)/FULLY DEVELOPED PLANS FOR AREA APPROVED AND NO REVISIONS NEEDED NO | JULY 1, 1973 | Water Quality Management Plan on schedule - money and time will prevent detail analysis of all waste sources. |
| STATE PRIORITIES FOR 1 & 5 YEAR NEEDS CONFORMED WITH ACCOMPLISHMENT PLAN YES | | |
| EFFLUENT GUIDELINES FOR CRITICAL SOURCES AVAILABLE NO | | Need effluent guidelines for Armour Food and Union Stockyards in W.Fargo, Minnkota Power Coop in Grand Forks, ~~and Otter Tail Power Co. in Wahpeton.~~ |
| WQ CRITERIA COVERING ALL CRITICAL PARAMETERS IN AREA APPROVED AND NO REVISIONS NEEDED YES | | Changes will be needed if national policy will be to ~~upgrade all streams to~~ recreational classification. |
| USE DESIGNATIONS AND NONDEGRADATION STATEMENTS FOR AREA WATERS APPROVED AND NO REVISIONS NEEDED YES | | |
| IMPLEMENTATION SCHEDULES COVERING THE AREA'S DISCHARGERS APPROVED AND CONFORMED WITH ACCOMPLISHMENT PLAN YES | | 1965 Enforcement Conference established the dates. |

SECTION D

Point Source Loads & Locations

RIVER BASIN RED

WASTEWATER SOURCE American Crystal Sugar-Drayton

RIVER MILE 205.4 Red

PV/PN 9/1

TABLE 1

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73,74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 19 MGD Ave.<br>76 MGD Max. | 7.5 MGD Ave.<br>63 MGD Max. | 11.5 MGD Ave.<br>12.5 MGD Max. | | | | | | | | None, Recycle | | | | 11.5 MGD. Ave.<br>12.5 MGD Ave. | | | | 7.5 MGD Ave.<br>63 MGD Max | | | | |
| PH | 7.6 | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | 46 Min.<br>72 Max. 5 | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 415 mg/l;<br>65,794#/Day | 63,044#/Day | 60794 | | | | | 2750 | | | | | | | 60794 | | 2750 | | 63,044#/Day | | | | 3 |
| TDS | 1078 mg/l;<br>170,906#/Day | | | | | | | | | | | | | | | | | | | | | | 3 |
| TSS | 102 mg/l;<br>16,171#/Day | 13,420#/Day | 13420 | | | | | | | | | | | | 13420 | | | | 13,420#/Day | | | | 3 |
| $NH_3$-N | 15.20 mg/l;<br>2410#/Day | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | ND | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | ND | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | ND | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | Not Reported<br>ND | | May 75 x $10^6$/Ton | | | | | | | | | | | | 75 x $10^6$/Ton | | | | | | | | |
| Total Coli. | Not Reported<br>ND | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | NA | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | NA | | | | | | | | | | | | | | | | | | | | | | |
| Sulfides | 0.65 mg/l | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 9 |

(2) lat. 48-36-00
long. 97-09-00

COMMENTS

Type of Facility - Sugar Beet

Design P.E.

Present P.E.

Effluent Requirements

1. $BOD_5$ = 0.5#/Ton sliced beets - EPA requirements.
2. Fecal coliform = 75 x $10^6$/ton of sliced beets - EPA requirements; or 41 x $10^{10}$/day over intake
3.

Type Sewer (Combined or Separate)

RIVER BASIN Red

TABLE 1

WASTEWATER SOURCE Armour Food-West Fargo

RIVER MILE 25.1 Sheyenne River

P./FY 7/2

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 74 75 76 | FY 73, 74 Commits 73 74 75 76 | Expected Incr. 73 74 75 76 | Total Commits (3) + (4) 73 74 75 76 | Total Reduction (2) + (5) 73 74 75 76 | PV |
|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .017 | | | | Est. 10% (.0017) | | | |
| PH | 7.6 | | | | | N/A | N/A | |
| Temp, °F | 45 W<br>68 S | | | | | | | |
| $BOD_5$ | 54 mg/l;<br>5.4#/day | No obj. as yet. | Will locate exact location of discharge to sewer. | None | .5 #/day | | | 1 |
| TDS | 1597 mg/l<br>159.7 #/day | Probable connect to San. Sewer. | | | 15.9 #/day | | | 1 |
| TSS | 26 mg/l,<br>2.6 #/day | | | | .26 #/day | | | 1 |
| $NH_3$-N | 1.0 mg/l<br>0.10 #/day | | | | .01 #/day | | | 1 |
| Org-N | N/D | | | | | | | |
| Total-N | N/D | | | | | | | |
| Total-P | 1.63 mg/l<br>.16 #/day | | | | .016 #/day | | | |
| Fecal Coli. | 115 | | | | 11.5 #/day | | | |
| Total Coli. | 19,300 | | | | 1,9300/day | | | 3 |
| Grease & Oil | 84 mg/l,<br>8.4 #/day | | | | 8#/day | | | |
| Toxic Metals | N/A | | | | | | | |
| Other Toxics | N/A | | | | | | | 7 |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | |

COMMENTS:

Type of Facility

Design P.E.

Present P.E.

Effluent Requirements

1.

2.

3.

Type Sewer (Combined or Separate)

RIVER BASIN Red
WASTEWATER SOURCE Fargo (Construction underway) WWTP
RIVER MILE 441 Red
P1/PN 6.5/3

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| | 10 MGD Design | | | | | | | | | | | | | | | | | | | | | | |
| Flow, MGD | 7.0 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ 12000#/D | 3500 #/Day | 2044 #/day | 2300 #/day (74) | | | | | | | | 19.2 | 19.2 | 19.2 | 19.2 | 2300 | 2300 | 0 | 0 | 2063 | 19.2 | 19.2 | 19.2 | 3.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | |
| TSS /14040#/D | 4200 " " | 2449 " | 2449 #/day (74) | | | | | | | | 22.6 | 22.6 | 22.6 | 22.6 | 2449 | 2449 | 0 | 0 | 2472 | 22.6 | 22.6 | 22.6 | .5 / 3.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 6.5* |

COMMENTS:
Type of Facility - Trickling Filter followed by lagoons (580 acres)
Design P.E. 85,000 (yr.2000)
Present P.E. 53,365 ) 1130 PE/Yr. = 192.1 #$BOD_5$/Day, Q = .11 mgd. increase/yr. BOD incr. = 19.2#/day

| Effluent Requirements | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|
| 1. 25 mg/l - BOD | 1456#/d | 1479#/d | 1501#/d | 1524#/d | 1547#/d |
| 2. 30 mg/l - SS | 1751#/d | 1775#/d | 1801#/d | 1832#/d | 1860#/d |
| 3. Q = MOD | 7.11 | 7.22 | 7.33 | 7.44 | |

Type Sewer (Combined or Separate)
*This project is a special exception because of enforcement proceedings.

RIVER BASIN Red

WASTEWATER SOURCE Union Stockyards-W. Fargo

RIVER MILE 25.1 Sheyenne River

PV/PN 6/4

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .917 | 1.0 | | | | | | | | | 10% | | | | | | | | | | | | |
| PH | 8.3 | 6.5 to 8.5 | | | | | | | | | | | | | | | | | | | | | |
| Temp. °F | 41 w<br>69 s | | None | | | | None | | | | | | | | None | | | | | | | | |
| $BOD_5$ | 10 mg/l<br>782 #/day | 572 #/day | | | | | | | | | | | | | | | | | | | | | |
| TDS | 1293 9900 | | | | | | | | | | 78<br>990 | 78<br>990 | 78<br>990 | 78<br>990 | | | | | 650<br>990 | 78<br>990 | 78<br>990 | 78<br>990 | 1<br>1 |
| TSS | 460 5000 | 4,750 #/day | | | | | 4750 #/day | | | | 500 | 500 | 500 | 500 | 4750 #/day | | | | 5250 | 500 | 500 | 500 | 1 |
| $NH_3$-N | 6 54.6 | | | | | | | | | | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 3 |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | 1.3 | 1.3 | 1.3 | 1.3 | | | | | 1.3 | 1.3 | 1.3 | 1.3 | |
| Total-P | 1.8 13.85 | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | 360/100 ml. | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | 965/100 ml. | 5000/100 ml. | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 6 |

COMMENTS:

Type of Facility Lat. 46-50-45 Long. 46-53-30

Design P.E. Holding sen washing, trough washing, water trough ran over.

Present P.E.

Effluent Requirements

1. Company and EPA are currently working on commits.
2. Better conservation practices should decrease waste loads.
3.

Type Sewer (Combined or Separate)

RIVER BASIN Red
WASTEWATER SOURCE Fargo, N.D. Water Filtration Plant
RIVER MILE 441 Red
PV/PN 5/5

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | 14.0 | | | | | | | | | | | | | | | | | | | | | | |
| PH | 7.0 | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 0 | | | | | | | | | | | | | | | | | | | | | | DNA |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | |
| TSS | 40,000 #/day | 36,500 #/day | 40,000 #/day | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40,000 #/day | | | | DNA |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | 5.0 |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 5.0 |

COMMENTS:
Type of Facility - Sludge handling facilities for water filtration plant.
Design P.E. - 53,365
Present P.E. - 35,000
Effluent Requirements
1.
2. 30 mg/l SS-3500 #/day
3.
Type Sewer ~~(Combined or~~ Separate)

RIVER BASIN Red
WASTEWATER SOURCE Minnekota Power Coop. Grand Forks
RIVER MILE Red 298 Red
PW/PN 5/5

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 30 mgd | | | | | | | | | | No increase unless plant expands fac. | | | | | | | | | | | | |
| PH | 8 | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | 60 w<br>85 s | | | | | | None | | | | | | | | | | | | | | | | |
| $BOD_5$ | 6 mg/l<br>1500 #/day | | | | | | | | | | | | | | | | | | | | | | 1 |
| TDS | 200 mg/l,<br>50,000 #/day | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| TSS | 20 mg/l,<br>5,000 #/day | 4980 #/day | 0 | 0 | 0 | 0 | 0 | 0 | 4980 | 0 | | | | | 0 | 0 | 4980 | 0 | 4980 | 0 | 0 | 0 | 1 |
| $NH_3$-N | 0.2 mg/l<br>50 lb/day | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | 0.2 mg/l<br>50 #/day | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 5 |

COMMENTS:
Type of Facility - Lat. 47-56-25 Long. 97-2-40, steam-electric plant.
Design P.E.
Present P.E.
Effluent Requirements
1.
2.
3.
Type Sewer (Combined or Separate)

RIVER BASIN Red

WASTEWATER SOURCE Otter Tail Power Co. Wahepton

RIVER MILE Red 545.2 Red

PV/PN 5/5

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 74 75 76 | FY 73, 74 Commits 73 74 75 76 | Expected Incr. 73 74 75 76 | Total Commits (3) + (4) 73 74 75 76 | Total Reduction (2) + (5) 73 74 75 76 | PV |
|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 14.3 | | | | | | | |
| PH | 8.4 | | | | | | | |
| Temp, °F | 45 w<br>90 s | | | | | | | |
| $BOD_5$ | 7 mg/l--833 #/day | | | | | | | 1 |
| TDS | 210 mg/l--250,000 #/day | | | | | | | |
| TSS | 6 mg/l--714 #/day | No EPA Obj. developed as of 9/13. | None | | No increase unless plant size is incr. | N/A | N/A | 3 |
| $NH_3$-N | .18 mg/l<br>21 #/day | | | | | | | 1 |
| Org-N | N/D | | | | | | | |
| Total-N | N/D | | | | | | | |
| Total-P | N/D | | | | | | | |
| Fecal Coli. | N/D | | | | | | | |
| Total Coli. | N/D | | | | | | | |
| Grease & Oil | N/A | | | | | | | |
| Toxic Metals | N/A | | | | | | | |
| Other Toxics | N/A | | | | | | | 5 |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | |

COMMENTS:

Type of Facility - Steam-Electric Plant Lat. 46-17-18 Long. 96-36-03

Design P.E.

Present P.E.

Effluent Requirements

1.

2.

3.

Type Sewer (Combined or Separate)

RIVER BASIN Red
WASTEWATER SOURCE Pillsbury-Grand Forks
RIVER MILE Red 298 Red
PV/PN 3/6

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 0.23 | | | | | | | | | | | | | | | | | | | | | | |
| PH | 8.1 | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | 68°F | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 20 mg/l<br>37.2 #/day | No EPA objective | None | | | | None | | | | No increase expected. | | | | N/A | | | | N/A | | | | 1 |
| TDS | 484 mg/l<br>9160 #/day | | | | | | | | | | | | | | | | | | | | | | 1 |
| TSS | 10 mg/l<br>19.1 #/day | | | | | | | | | | | | | | | | | | | | | | 1 |
| $NH_3$-N | .44 mg/l<br>.75 #/day | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | .026 mg/l<br>.050 #/day | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 3 |

COMMENTS:
Type of Facility
Design P.E.
Present P.E.
Effluent Requirements
1.
2.
3.
Type Sewer (Combined or Separate)

Lat. 47-56-40
Long. 97-03-20
Water used for air conditioner cooling only.

RIVER BASIN Red
WASTEWATER SOURCE USDI Valley City National Fish Hatchery, Valley City
RIVER MILE Sheyenne River 248 Valley City
PW/PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 74 75 76 | FY 73, 74 Commits 73 74 75 76 | Expected Incr. 73 74 75 76 | Total Commits (3) + (5) 73 74 75 76 | Total Reduction (2) - (6) 73 74 75 76 | PW |
|---|---|---|---|---|---|---|---|---|
| Flow, MGD | $10.9 \times 10^6$ gal/yr. | | | | | | | |
| PH | 7.9 | | | | | | | |
| Temp, °F | 39 W<br>85 S | | | | | | | |
| $BOD_5$ | 4 mg/l .96#/day | No objective. | None | None | No increase unless size is increased. | None | None | 1 |
| TDS | 0.1 mg/l - .024#/day | | | | | | | .5 |
| TSS | .14 mg/l - .0336 #/day | | | | | | | 1 |
| $NH_3$-N | 0.75 mg/l - .18 #/day | | | | | | | |
| Org-N | N/D | | | | | | | |
| Total-N | N/D | | | | | | | |
| Total-P | 0.40 mg/l - .096 #/day | | | | | | | |
| Fecal Coli. | N/D | | | | | | | |
| Total Coli. | N/D | | | | | | | |
| Grease & Oil | N/A | | | | | | | |
| Toxic Metals | N/A | | | | | | | |
| Other Toxics | N/A | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | 2.5 |

COMMENTS:
Type of Facility Fish Hatchery
Design P.E.
Present P.E.
Effluent Requirements
1.
2.
3.
Type Sewer (Combined or Separate)

Lat. 46-57-45
Long. 98-01-45

RIVER BASIN Red

WASTEWATER SOURCE USDI-Baldhill Dam National Fish Hatchery-Valley City

RIVER MILE Sheyenne River 248 Valley City

PW/PN 2.5/1

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (3) 73 | 74 | 75 | 76 | Pt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 11.5 x $10^6$ gal/yr. | | | | | | | | | | | | | | | | | | | | | | |
| PH | -8.4 | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | 39 w<br>85 s | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 6 mg/l<br>.15 #/day | No objectives. | No commits | | | | None | | | | None unless Hatchery size is increased. | | | | None | | | | None | | | | 1 |
| TDS | 0.1 .02 #/day | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 25 mg/l - 6.55 #/day | | | | | | | | | | | | | | | | | | | | | | 1 |
| $NH_3$-N | 0.06 mg/l - .015 #/day | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | 0.20 mg/l - .0525 #/day | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility Fish Hatchery Lat. 47-02, Long. 098-05 Discharge is intermittent.

Design P.E.

Present P.E.

Effluent Requirements

1.

2.

3.

Type Sewer (Combined or Separate)

RIVER BASIN Red
WASTEWATER SOURCE Abercombie (plant new under construction)
RIVER MILE 501 Red
PW/PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) - (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .096 | | | | | | | | | | | | | | | | | | | | | | |
| PH | 7 | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ 44.2 | 132.6 #/day (150 mg/l) | 112.8 #/day | 118.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118.8 | 0 | 0 | 0 | 112.8 | 0 | 0 | 0 | 1.0 |
| TDS | | | | | | | | | | | | | | | | | | | | | | | 0.5 |
| TSS 520 | 156 #/day 190 mg/l | 132 #/day | 143.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 143.4 | 0 | 0 | 0 | 132 | 0 | 0 | 0 | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:
Type of Facility Lagoons (3 acres)
Design P.E. 350 - 1990
Present P.E. 260 - 1990
Effluent Requirements
1. 25 mg/l - BOD - (208) - 19.8 #/day
2. 30 mg/l - SS - (2502) - 24.0 #/day
3.
Type Sewer (Combined or Separate)

RIVER BASIN Red

WASTEWATER SOURCE Amenia

RIVER MILE 426 (R.R. - confluence w/Rush River)

PV/PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | .011 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 17 #/day | 14.7 #/day | 0 | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15.3 | 0 | 0 | 0 | 14.7 | 0 | 0 | 0 | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | 0.5 |
| TSS | 20#/day | 17.2 #/Day | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 17.2 | 0 | 0 | 0 | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Present facilities - septic tanks, proposed future facilities - 2-cell waste stabilization lagoon system.
Design P.E. - 150
Present P.E. - 100
Effluent Requirements
1. 25 mg/l - BOD - (208) - 2.3 #/day
2. 30 mg/l - SS - (256.2) - 2.8 #/day
3.

Type Sewer (Combined or Separate) No storm sewer.

RIVER BASIN Red

TABLE I

WASTEWATER SOURCE Cavalier (assume 90% removal)

RIVER MILE 196 Rush R. to Red to mouth

PE/PE 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .48 mgd | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 70.5 #/day (18 mg/l) | 0 | | 0 | | | 0 | | | | 48 #/day (est.) | | | | 0 | | | | Do not exceed effluent allowances. | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | 0.5 |
| TSS | 82.5 #/day (22 mg/l) | 0 | | 0 | | | 0 | | | | 50 #/day (est.) | | | | 0 | | | | | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 2-cell waste stabilization lagoon system (15.5 acres)
Design P.E. 1830 - 1992 (24.9 PE/Yr) lineal incremental growth
Present P.E. 1381
Effluent Requirements
1. 25 mg/l - BOD - 208 - 99.9
2. 30 mg/l - SS - 250.2 - 120.0 #/day
3.
Type Sewer (Combined or Separate)

No significant impact. Is not developed in Tables III & IV. Code 1 will be used to indicate this fact on remainder of table.

[illegible] Red
[illegible] SOURCE Drayton
RIVER MILE 208 Red
PV/PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .33 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 55.8 #/day (20.3 mg/l) | 0 | | 0 | | | | 0 | | | .15 | .15 | .15 | .15 | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 65.7 #/day 24 mg/l | 0 | | 0 | | | | 0 | | | .17 | .17 | .17 | .17 | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/D | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:
Type of Facility - 10 acre - 2 cell lagoon system
Design P.E. 1250 ultimate (1990) $\frac{155}{88}$ = 8.6 PE/Yr - 1.5 #/day
Present P.E. 1095
Effluent Requirements
1. 25 mg/l - 208 - 68.6 #/day - 1976 load to stream does not exceed 68.6 #/day
2. 30 mg/l - 250.2 - 82.5 #/day - 1976 load to stream does not exceed 82.5 #/day
3.
Type Sewer (~~Combined or~~ Separate)

CODE 1

RIVER BASIN Red
WATER SOURCE Fairmount
RIVER MILE 462 Red
P./A. 2.577

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .12 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 21.0 #/day 20 mg/l | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 27.7 #/day 27 mg/l | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:
Type of Facility - Lagoon system, 2 cells (5.20 acres)
Design P.E. 612 - 1992 } 8.3 PE/Yr
Present P.E. 462 }
Effluent Requirements
1. 25 mg/l - BOD - 25.5 #/day
2. 30 mg/l - SS - 30.9 #/day
3.
Type Sewer (Combined or Separate)

CODE 1

Red

SOURCE Grafton

TABLE I

220 R.Park to Red to mouth

2.577

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet Eff. Proj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 5.7 MGD | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 1740 #/day | 555 #/day | 570 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Negligible | | | | 570 | 0 | 0 | 0 | 555 | 0 | 0 | 0 | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | |
| TSS | 2088 #/day | 666 #/day | 666 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Negligible | | | | 666 | 0 | 0 | 0 | 666 | 0 | 0 | 0 | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | UNA |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | |

COMMENTS:

Type of Facility 2.5 acre aerated lagoon followed by 2 x 70 (140 acres) lagoon cells - grant 1972 - pretreatment of industrial waste.

Design P.E. 33,000 466 PE/Yr. = .047 mgd or population projection 5663-1970 to 6550-1970 assume no individual growth.

Present P.E. 24,600 Qinc/Yr. $BOD_5$ inc. = 44 PE or 7.5 #/day Qinc - 4400 GPD

BOD stream = .75 #/day

Effluent Requirements

1. 25 mg/l BOD - 1185 #/yr.
2. 30 mg/l SS - 1425 #/Yr.
3.

Type Sewer (~~Combined~~ or Separate)

2.5

[illegible] Red
[illegible] SOURCE Grand Forks
[illegible] MILE 298 Red
[illegible] 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Redu[illegible] q'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | IPV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 9.6 | | | | | | | | | | #/Day | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 1992 #/day (25 mg/l) | 0 | | 0 | | | | 0 | | | 37.5 | 37.5 | 37.5 | 37.5 | | 0 | | | Based on pop. incr. and hydraulic incr. BOD & SS eff. req. will not be violated. | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 2340 #/day (29 mg/l) | 0 | | 0 | | | | 0 | | | 45.0 | 45.0 | 45.0 | 45.0 | | 0 | | | | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility Waste stabilization lagoon system (600 acres) - the assump. is that proj. on 5-yr. needs list is extension of sewer system.

Design P.E. 54,000 - 1992
Present P.E. 39,008 - 1972 ] 750 P.E./Yr. Qinc - 075 MGD/Yr. @ 25 mg/l, BOD to stream - 37.50
BOD stream = 37.50 #/day

Effluent Requirements
1. 25 mg/l BOD - 1995 #/day
2. 30 mg/l SS 2400 #/day
3.

| | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|
| *BOD in Stream (Cap) | 2043.6 #/d. | 2088#/d. | 2133 #/d. | 2175 #/d. |
| BOD from plant | 2028 #/d. | 2087#/d. | 2102 #/d. | 2145 #/d. |

SS will follow the same pattern, just factor figures.

Type Sewer ([redacted] Separate)

BASIN Red

WATER SOURCE Grand Forks Air Force Base

RIVER MILE 298 Red

P. E. 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 3.3 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 537 #/day | 0 | | 0 | | | | 0 | | | | 0* | | | | | | | | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 630 #/day | 0 | | 0 | | | | 0 | | | | 0* | | | | | | | | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:

Type of Facility - Waste stabilization lagoon system (total 80 acres).
Design P.E. 10500 Anticipate no future increase in population.
Present P.E. 10500
Effluent Requirements
1. 25 mg/l - BOD (684#/day)
2. 30 mg/l - SS (825#/day)
3.
Type Sewer (Combined or Separate)

CODE 1

*Population increases assumed to be constant.

BASIN Red

TABLE I

MAJOR WATER SOURCE Hillsboro

RIVER MILE 319 - confluence with R.R.of North & Goose

PWPS 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | .36 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 66.6 #/day (22.2 mg/l) | 0 | | 0 | | | | 0 | | | Negligible | | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 80.1 #/day (26.0 mg/l) | 0 | | 0 | | | | 0 | | | Negligible | | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 2 cell waste stabilization lagoon system (17 acres) CODE 1

Design P.E. 2000 - 1990 project

Present P.E. 1335

Effluent Requirements

1. 25 mg/l - BOD - (75 #/day)
2. 30 mg/l - SS - (90#/day)
3.

.2% linear increase in population (1960-1970) and pollution load .04#/day $BOD_5$ for FY 73
.05#/day SS for FY 73

Type Sewer (Combined or Separate)

TABLE 1

[illegible] Red
[illegible] Lisbon
[illegible] 441 - confluence of R.R. of North & Sheyenne R.
[illegible] 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .18 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | 1.0 |
| $BOD_5$ | 99.0 #/day (22 mg/1) | 0 | 0 | | | | 0 | | | | negligible | | | | 0 | | | | 0 | | | | .5 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | 1.0 |
| TSS | 108 #/day (26 mg/1) | 0 | 0 | | | | 0 | | | | negligible | | | | 0 | | | | 0 | | | | |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | 2.5 |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | |

COMMENTS:
Type of Facility - Waste stabilization lagoon system (est. 22 acres) no data available).
Design P.E. - 2500 ] 1,938 #/day - BOD to stream Qinc/day/yr - .21 MGD BOD inc./yr to stream = 1,938# but inc. in Q = .21 MGD
Present P.E. - 1800 .25 mg/1 BOD eff. std. is not violated (increase = 1 mg/1)
Effluent Requirements
1. 25 mg/1 - BOD - (111#/day)
2. 30 mg/1 - SS - (135#/day)
3.
Type Sewer (~~Combined~~ Separate)

CODE 1

RIVER BASIN Red

WASTEWATER SOURCE Park River (City)

RIVER MILE 220 - confluence of Red River and P.R.

PVEN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet EPA Proj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .51 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 105 #/day (25 mg/l) | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 123 #/day (29 mg/l) | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| NH3-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | | | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 1-acre aerated cell followed by a 20-acre cell and a 10-acre cell.
Design P.E. - 3500 - (1990 popl proj. = 2200) Expected Increase ~ 0
Present P.E. - 1750
Effluent Requirements
1. 25 mg/l - BOD - (105#/day)
2. 30 mg/l - SS - (127.5 #/day)
3.

Type Sewer (Combined or Separate)

RIVER BASIN Red
WATER SOURCE Pembina
RIVER MILE 158
PAGE 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | .18 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 35.7 #/day (24 mg/l) | 0 | | 0 | | | | 0 | | | .25 | | .25 | .25 | | | | | 0 | 0 | 0 | 0 | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 42 #/day (28 mg/l) | 0 | | 0 | | | | 0 | | | .25 | .25 | .25 | .25 | | | | | 0 | 0 | 0 | 0 | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:
Type of Facility - Waste stabilization lagoon system (23 acres)
Design P.E. - 2300
Present P.E. - 700
Effluent Requirements
1. 25 mg/l BOD - 37.5 #/day
2. 30 mg/l SS - 450 #/day
3.
Type Sewer (Combined or Separate)

CODE 1

Population increased 1.8% per year during 1960-1970 decade.
Assume expected increase ≃ 0.

[illegible] Red

[illegible] SOURCE Wahpeton

[illegible] MILE 549 Red

[illegible] 2.5/7

TABLE 1

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 3.0 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 2091 #/day | 1467 #/day | 0 | 1467 | 0 | 0 | | | | | | negligible | | | 0 | 1467 | 0 | 0 | 1467 | 0 | 0 | 0 | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 2510 #/day | 1760 #/day | 0 | 1760 | 0 | 0 | | | | | | negligible | | | 0 | 1760 | 0 | 0 | 1760 | 0 | 0 | 0 | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - aerated lagoon followed by waste stabilization lagoon system (70 acres).

Design P.E. - 16500

Present P.E. - 10400 (overloaded, Population - 7000 - present lagoon capacity)] .340 P.E./Yr. inc. = 17.4#/day to stream BOD Q/Yr. - .09

BOD inc. = neg.

Effluent Requirements

1. 25 mg/l BOD - (624 #/day)
2. 30 mg/l SS - (750 #/day)
3.

CODE 1

Type Sewer (~~Combined or~~ Separate)

RIVER BASIN Red

WASTEWATER SOURCE Walhalla

RIVER MILE 196 confluence with Pembina and Red River of North

PAGE 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .39 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 75.0 #/day (23 mg/l) | 0 | 0 | | | | 0 | | | | .25 | .25 | .25 | .25 | 0 | | | | none needed | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 88.5 #/day (27 mg/l) | 0 | 0 | | | | 0 | | | | .30 | .30 | .30 | .30 | 0 | | | | none needed | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Two-cell waste stabilization lagoon (18.9 acres)
Design P.E. - 2460
Present P.E. - 1471
Effluent Requirements
1. 25 mg/l - BOD - (81 #/day)
2. 30 mg/l - SS - (97.5 #/day)
3.
Type Sewer (Combined or Separate)

CODE 1

.3 population increase per year during 1960-1970.

TABLE I

[illegible] Red

[illegible] SOURCE West Fargo-Sheyenne River

[illegible] TRIB Sheyenne 23.1

[illegible] 2.5/7 Future project consists of the addition to the sewer system.

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 3.42 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 302.1 #/day | 0 | | 0 | | | 0 | | | | negligible | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 354.0 #/day | 0 | | 0 | | | | | | | negligible | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Waste stabilization lagoons (168 acres).
Design P.E. - 24,609 (6,759 domestic + 17,850 industrial). ] Increase in load due to population is offset by increase in Q due to population.
Present P.E. - 5929
Effluent Requirements
1. 25 mg/l - BOD - 711 #/day.
2. 30 mg/l - SS - 855 #/day.
3.

Type Sewer (Combined or Separate)

TABLE I

RIVER BASIN Red
WASTEWATER SOURCE Valley City (New project is for the construction of force M. and lift station)
RIVER MILE 248.0 Sheyenne
PE/FE 2.577

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 2.13 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 399 #/day (23 mg/l) | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 469.5 #/day (27 mg/l) | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | 2.5 |
| | (1) | (2) | | (3) | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | |

COMMENTS:
Type of Facility - 3 cell waste stabilization lagoon (117 acres)
Design P.E. 13800
Present P.E. 7843 ] 297 PE/Yr. BOD to system = 15.15 #/day/year Qin - .09 BOD to stream/y - 22 mg/l.
Effluent Requirements
1. 25 mg/l BOD - 444 #/day
2. 30 mg/l SS - 532.5 #/day
3.
Type Sewer (Combined or Separate)

C5A

Red

TABLE I

SOURCE American Sugar, Moorhead, Minn.

MILE 438 Red

7/2

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 10 MGD | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 118,000 | | | | | | | | | | | | | | | | | | | | | | 3 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | 3 |
| TSS | 12,500 | | | | | | | | | | | | | | | | | | | | | | |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | 1 |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 7 |

COMMENTS:
Type of Facility
Design P.E.
Present P.E.
Effluent Requirements
1.
2.
3.
Type Sewer (Combined or Separate)

Region V is responsible for Administering EPA programs in Minnesota.

RIVER BASIN Red

TABLE 1

DISCHARGER SOURCE American Crystal, Crookston, Minn.

RIVER MILE 53 Red Lake

REPORT 7/2

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 5 MGD | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 125,000 #/d. | | | | | | | | | | | | | | | | | | | | | | 3.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 25,200 #/d. | | | | | | | | | | | | | | | | | | | | | | 3.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 7.0 |

COMMENTS:

Type of Facility -

Region V is responsible for administering EPA programs in Minnesota.

Design P.E.

Present P.E.

Effluent Requirements

1.

2.

3.

Type Sewer (Combined or Separate)

TABLE I

RIVER BASIN Red
WASTEWATER SOURCE American Crystal-E. Grand Forks, Minn.
RIVER MILE 293 Red
PV/PN 7/2

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 4.5 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | 3 |
| $BOD_5$ | 75,000 #/day | | | | | | | | | | | | | | | | | | | | | | .5 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | 3 |
| TSS | 2600 #/day | | | | | | | | | | | | | | | | | | | | | | |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | 7.0 |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | |

COMMENTS:
Type of Facility
Design P.E.
Present P.E.
Effluent Requirements
1.
2.
3.
Type Sewer (Combined or Separate)

Region V is responsible for Administering EPA programs in Minnesota.

RIVER BASIN Red

WASTEWATER SOURCE Ada, Minnesota

RIVER MILE Marsh River-Red

P./PN 2.577

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .186 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 35#/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS 41 | 41#/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Secondary TF

Design P.E. 4600 ] based on BOD increase = hydraulic increase - there is no expected increase in loading to stream.

Present P.E. 1860

Effluent Requirements

1. 39#/day $BOD_5$ (25 mg/l)
2. 47#/day TSS (30 mg/l)
3.

Type Sewer (Combined or Separate)

CODE 1

TABLE 1

[illegible] Red
[illegible] SOURCE Bagley, Minnesota
[illegible] MILL Clearwater - Red Lake
[illegible] 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .13 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 26 #/day | 0 | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 30 #/day | 0 | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | DNA |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | 2.5 |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | |

COMMENTS:
Type of Facility - Secondary Trickling Filter
Design P.E. 1300
Present P.E. 1250
Effluent Requirements
1. 27#/day BOD
2. 32#/day SS
3.
Type Sewer (Combined or Separate)-Information not available

CODE 1

RIVER BASIN Red

TABLE I

WASTEWATER SOURCE Bainesville, Minn.

RIVER MILE Willow-Deerhorn-Buffalo-Red

PV/PS 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | .15 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 30 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 35 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:

Type of Facility - Secondary Activated Sludge
Design P.E. - 1560
Present P.E. - 1480
Effluent Requirements
1. 31#/day BOD
2. 37#/day SS
3.
Type Sewer (Combined or Separate) - Information not available

CODE 1

'72<

RIVER BASIN Red
WATER SOURCE Breckenridge, Minn.
RIVER MILE Red River
FY/FR 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .35 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 70 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | |
| TSS | 86 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | .5 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | 1.0 |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:
Type of Facility - TF
Design P.E. 5000
Present P.E. 3800
Effluent Requirements
1. 73 #/day $BOD_5$
2. 88264 #/day SS
3.
Type Sewer (Combined or Separate)

CODE 1

RIVER BASIN Red

WASTEWATER SOURCE Crookston, Minn.

RIVER MILE Red Lake River-Red River 53

P//PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 2.31 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 450 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 525 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Secondary stabilization pond.
Design P.E. - 14,394
Present P.E. - 7,700
Effluent Requirements
1. 480 #/day BOD
2. 570 #/day SS
3.
Type Sewer (~~Combined or~~ Separate)

CODE 1

74<

RIVER BASIN Red

WASTEWATER SOURCE E. Grand Forks, Minnesota

RIVER MILE Red River 29.3

PW/EM 2.5/7

TABLE 1

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 2.25 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 20.5 mg/l<br>387 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 25 mg/l<br>465 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 2nd Stabilization Pond

Design P.E. - 14000
Present P.E. 7600 ] The effluent quality should remain the same assuming that the BOD increases at a rate of 17#/c/d and the hydraulic flow increases at a constant rate (100 g/d/c)

Effluent Requirements

1. 25 mg/l - 468#/day
2. 30 mg/l - 561#/day
3.

Type Sewer (~~Combined~~ Separate)

CODE 1

RIVER BASIN Red

TABLE I

MUNICIPAL SOURCE Fosston, Minn.

RECEIVING WATER Poplar River-Sand Hill-Red River

PWSN 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet Eff. Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 8.19 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 858 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 1395 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | | (1) | (2) | | (3) | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 2nd Trickling Filter, waste stabilization ponds.
Design P.E. - 27,000 ] Population increase to BOD and SS loading of stream will
Present P.E. - 12,443 ] be offset by increase in hydraulic loading.

Effluent Requirements
1. 25 mg/l 1710#/day
2. 30 mg/l 2070 #/day
3.

Type Sewer (Combined or Separate)

CODE 1

76<

[illegible] IN Red

[illegible] SOURCE Fosston, Minn.

[illegible] MILE Poplar River-Sand Hill-Red River

P./PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Redu[illegible] q'd to Meet EP[illegible] [illegible]j. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 1.45 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 9000 #/day | 8700 #/day | | | | | 8700 #/day | | | | | | | | 8700 #/day | | | | 8700 #/day | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 10500 #/day | 10136 #/day | | | | | 10136 #/day | | | | | | | | 10136 #/day | | | | 10136 #/day | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Pre-aeration basin followed by WSP, assume 2500 ppm potato waste which makes up .9 MGD (est.)

Design P.E. - 2170 (information very incomplete. This is only estimate. They are

Present P.E. - 1684 scheduled to do something about 2 x flow overload in 1974).

Effluent Requirements

1. 25 mg/l - BOD - 300#/day
2. 30 mg/l - 55 - 364.35 #/day
3.

Type Sewer (~~Combined on~~ Separate)

77<

RIVER BASIN- Red
WASTEWATER SOURCE Frazee, Minn.
RIVER MILE Otterton-Red
PV/PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | .3 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 60 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 69 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:
Type of Facility - 2nd Stabilization pond
Design P.E. 600
Present P.E. 500
Effluent Requirements
1. 63 #/day BOD
2. 75 #/day SS
3.
Type Sewer (~~Combined or~~ Separate)

CODE 1

[illegible] Red
[illegible] SOURCE Hallock, Minn.
RIVER MILE Middle Fork of Two Rivers-Red
[illegible] 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits | | | | FY 73, 74 Commits | | | | Expected Incr. | | | | Total Commits (3) + (4) | | | | Total Reduction (2) + (5) | | | | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | 73 | 74 | 75 | 76 | |
| Flow, MGD | .15 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 30 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 35 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:
Type of Facility - 2nd trickling filter
Design P.E. 2900
Present P.E.
Effluent Requirements
1. 31 #/day BOD
2. 37 #/day SS
3.
Type Sewer (~~Combined or~~ Separate)

CODE 1

RIVER BASIN Red

WATER SOURCE Mahnomen, Minn.

RIVER MILE Wild Rice River-Red

PV/PN 2.5/7

TABLE I

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .39 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 78 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 90 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Sec. Stabilization pond.
Design P.E. 1500
Present P.E. 1300
Effluent Requirements
1. 81 #/day BOD
2. 96 #/day SS
3.
Type Sewer (Combined or Separate)

CODE 1

Red

Hawley, Minnesota

Buffalo-Red

2.5/7

PAGE 1

| Waste Parameter | Present Load | Pres. Redun. Req'd to Meet Eff. Proj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .39 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp. °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 78 #/day | 0 | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | |
| TSS | 90 #/day | 0 | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | .5 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | 1.0 |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 2nd Stabilization Pond
Design P.E. 3000
Present P.E. 2500
Effluent Requirements
1. 81 #/day BOD
2. 96 #/day SS
3.

Type Sewer (Combined or Separate)

CODE 1

RIVER BASIN Red

WASTEWATER SOURCE Moorhead, Minn.

RIVER MILE Red River

DATE 2.5/7

TABLE 1

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | 2.7 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp. °F | 816 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $BOD_5$ | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TDS | 960 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TSS | N/D | | | | | | | | | | | | | | | | | | | | | | |
| NH3-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:

Type of Facility - Activated Sludge
Design P.E. 75,000
Present P.E. 46,000 (including ind. flow)
Effluent Requirements
1. 1190 #/day BOD
2. 1420 #/day SS
3.

Type Sewer (~~Combined or~~ Separate)

CODE 1

Red

Pelican Rapids

Pelican River

2.577

TABLE 1

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet Eff. Req. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .15 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 30#/day | 0 | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 35 #/day | 0 | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - 2nd Trickling Filter
Design P.E. 1600
Present P.E. 1350
Effluent Requirements
1. 31 #/day
2. 37 #/day SS
3.
Type Sewer (~~Combined~~ Separate)

CODE 1

RIVER BASIN Red

TABLE I

POINT SOURCE Roseau, Minn.

RIVER MILE Roseau River-Red in Canada

PAGE 2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .114 | | | | | | | | | | | | | | | | | | 8 | 8 | 8 | 8 | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 120 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 150 #/day | 0 | | 0 | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility - Primary Imhoff
Design P.E. 3500
Present P.E. 2300
Effluent Requirements
1. 237 #/day BOD
2. 285 #/day SS
3.
Type Sewer (~~Combined~~ or Separate)

CODE 1

8.2<

Red

TABLE I

Red Lake Falls, Minn.

Clearwater R.-Red Lake-Red River

2.5/7

| Waste Parameter | Present Load | Pres. Reduc. Req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .42 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 51 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 63 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| Nitg-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | | 2.5 |

COMMENTS:

Type of Facility WSP - secondary
Design P.E. 1700
Present P.E.
Effluent Requirements
1. 87 #/day BOD
2. 105 #/day SS
3.
Type Sewer (~~Combined~~ or Separate)

CODE 1

[illegible] Red

[illegible] SOURCE Thief River Falls

[illegible] Red Lake River-Red River

[illegible] 2.5/7

TABLE 1

| Waste Parameter | Present Load | Pres. Reduc. req'd to Meet EPA Obj. | FY 72 Commits 73 | 74 | 75 | 76 | FY 73, 74 Commits 73 | 74 | 75 | 76 | Expected Incr. 73 | 74 | 75 | 76 | Total Commits (3) + (4) 73 | 74 | 75 | 76 | Total Reduction (2) + (5) 73 | 74 | 75 | 76 | PV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow, MGD | .65 | | | | | | | | | | | | | | | | | | | | | | |
| PH | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Temp, °F | N/D | | | | | | | | | | | | | | | | | | | | | | |
| $BOD_5$ | 130 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| TDS | N/D | | | | | | | | | | | | | | | | | | | | | | .5 |
| TSS | 152 #/day | 0 | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 1.0 |
| $NH_3$-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Org-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-N | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total-P | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Fecal Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Total Coli. | N/D | | | | | | | | | | | | | | | | | | | | | | |
| Grease & Oil | N/A | | | | | | | | | | | | | | | | | | | | | | DNA |
| Toxic Metals | N/A | | | | | | | | | | | | | | | | | | | | | | |
| Other Toxics | N/A | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | (2) | | (3) | | | | (4) | | | | (5) | | | | (6) | | | | (7) | | | 2.5 |

COMMENTS:

Type of Facility - 2nd Trickling Filter

Design P.E. 12800

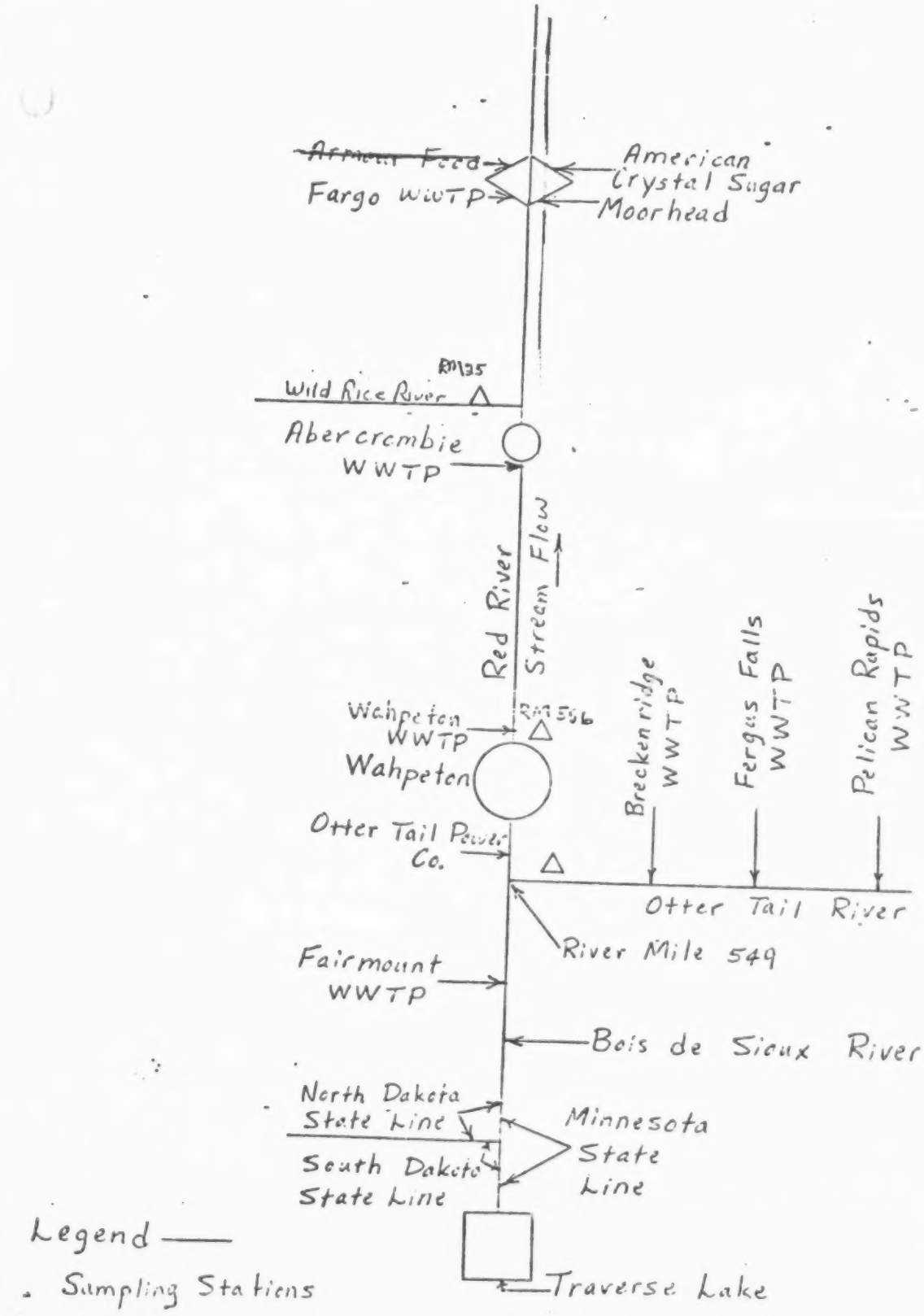
Present P.E. 10700

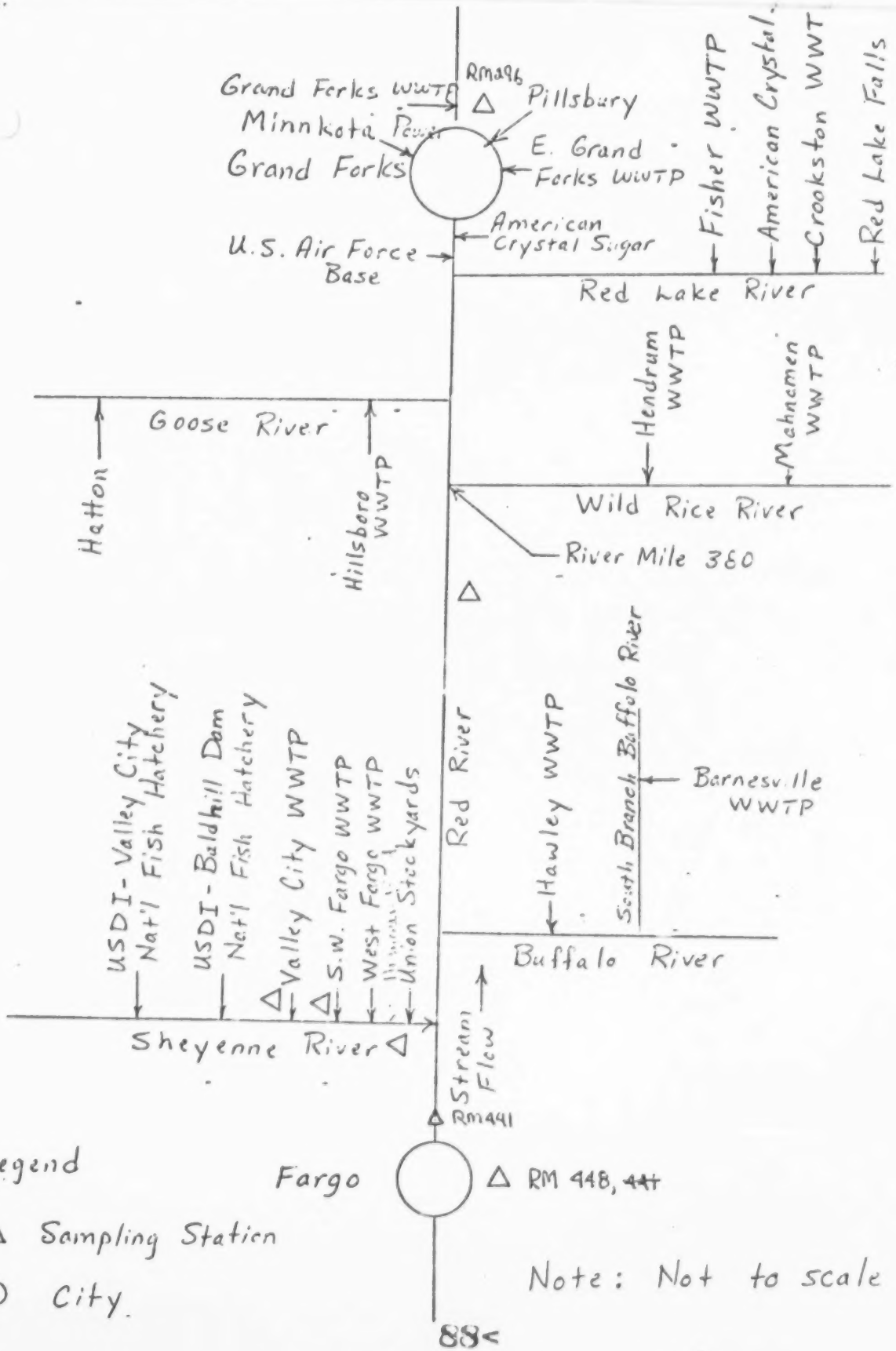
Effluent Requirements

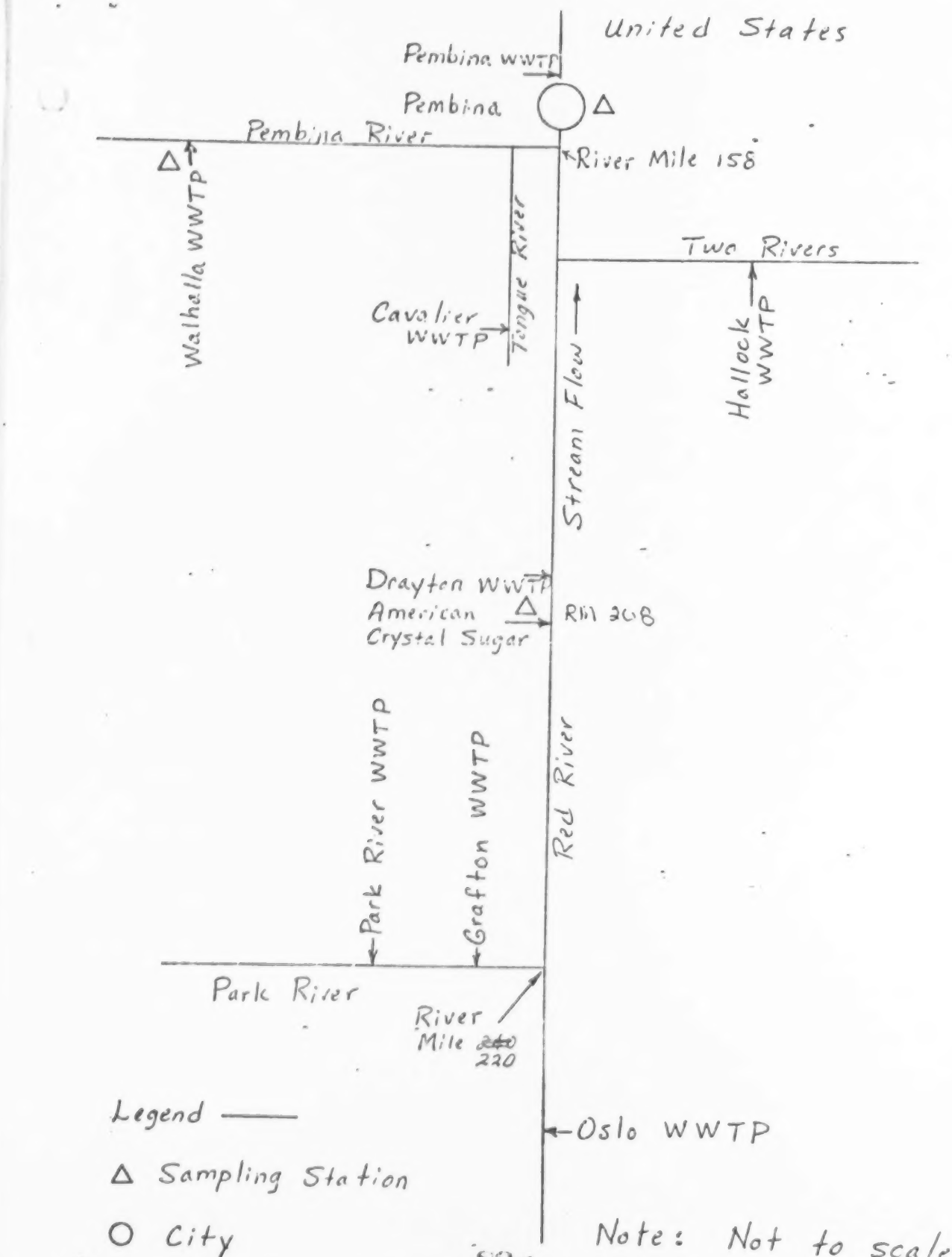
1. 135 #/day BOD
2. 162 #/day SS
3.

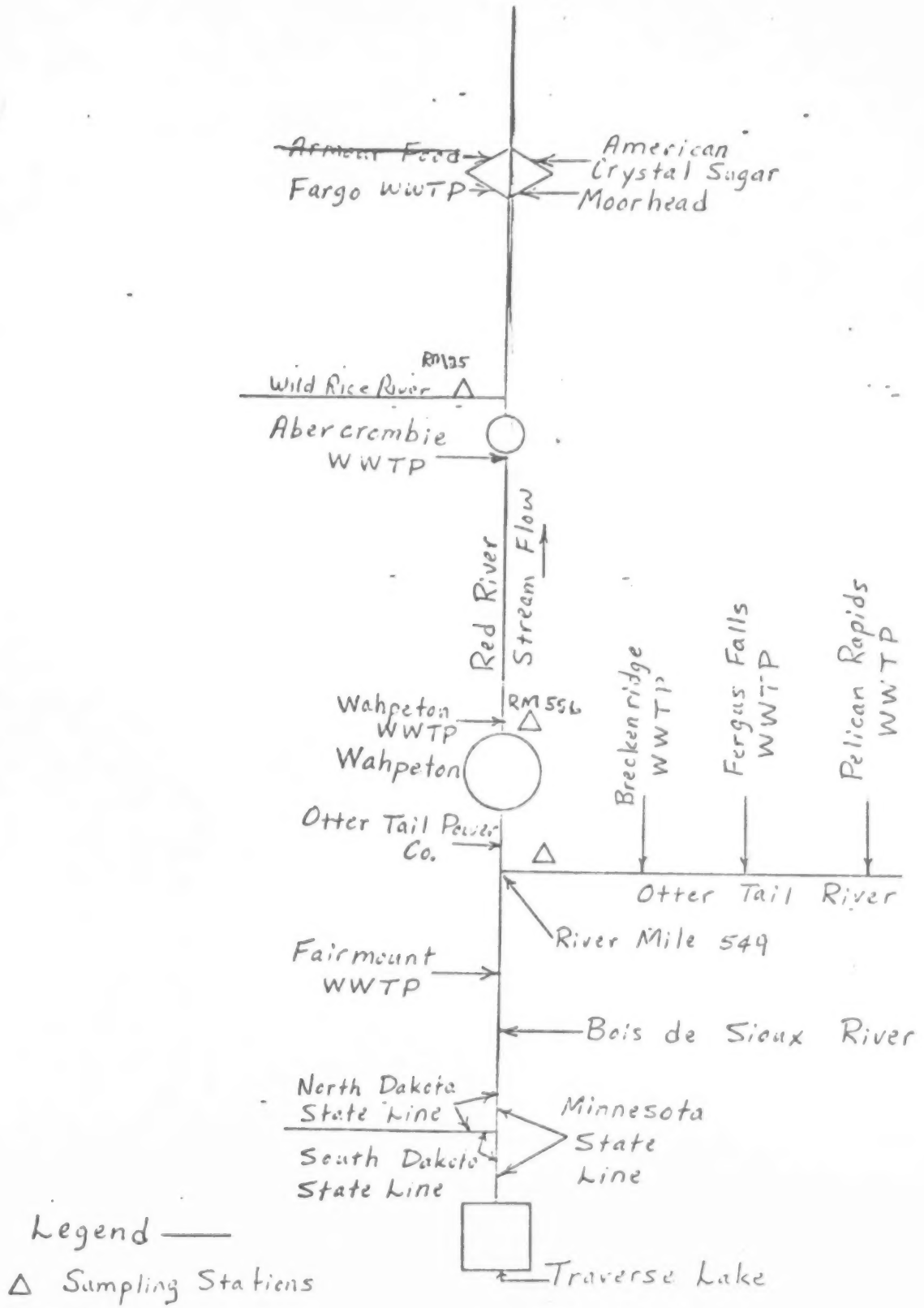
Type Sewer (~~Combined or~~ Separate)

CODE 1


Armour Feed
Fargo WWTP
American Crystal Sugar
Moorhead
RM 135
Wild Rice River
Abercrombie WWTP
Red River
Stream Flow
RM 536
Wahpeton WWTP
Wahpeton
Otter Tail Power Co.
Breckenridge WWTP
Fergus Falls WWTP
Pelican Rapids WWTP
Otter Tail River
River Mile 549
Fairmount WWTP
Bois de Sioux River
North Dakota State Line
South Dakota State Line
Minnesota State Line
Traverse Lake
Legend
Sampling Stations
City
Note: Not to scale


Grand Forks WWTP
RM496
Pillsbury
Minnkota Power
Grand Forks
E. Grand Forks WWTP
American Crystal Sugar
U.S. Air Force Base
Fisher WWTP
American Crystal
Crookston WWT
Red Lake Falls
Red Lake River
Hendrum WWTP
Mahnemen WWTP
Goose River
Hatton
Hillsboro WWTP
Wild Rice River
River Mile 380
Red River
Hawley WWTP
South Branch Buffalo River
Barnesville WWTP
Buffalo River
USDI - Valley City Nat'l Fish Hatchery
USDI - Baldhill Dam Nat'l Fish Hatchery
Valley City WWTP
S.W. Fargo WWTP
West Fargo WWTP
Union Stockyards
Sheyenne River
Stream Flow
RM441
Fargo
RM 448, 447
Legend
Sampling Station
City
Note: Not to scale


United States
Pembina WWTP
Pembina
Pembina River
River Mile 158
Walhalla WWTP
Tongue River
Two Rivers
Cavalier WWTP
Hallock WWTP
Streami Flow
Drayton WWTP
American Crystal Sugar
RM 208
Park River WWTP
Grafton WWTP
Red River
Park River
River Mile 220
Oslo WWTP
Legend
Sampling Station
City
Note: Not to scale


~~Armour Food~~
American Crystal Sugar
Fargo WWTP
Moorhead
RM 135
Wild Rice River
Abercrombie WWTP
Red River
Stream Flow
Wahpeton WWTP
RM 556
Wahpeton
Otter Tail Power Co.
Breckenridge WWTP
Fergus Falls WWTP
Pelican Rapids WWTP
Otter Tail River
River Mile 549
Fairmount WWTP
Bois de Sioux River
North Dakota State Line
South Dakota State Line
Minnesota State Line
Traverse Lake
Legend
Sampling Stations
City
Note: Not to scale

## POLLUTION SOURCES WITH PV $\geq$ 3

| | | PV |
|---|---|---|
| 1. | American Crystal Sugar (Drayton) | 9.0 |
| 2. | Armour Food - Fargo | 7.0 |
| 3. | American Crystal Sugar, Crookston | 7.0 |
| 4. | American Crystal Sugar, Moorhead | 7.0 |
| 5. | American Crystal Sug, E. Grand Forks | 7.0 |
| 6. | Fargo WWTP - Fargo | 6.5 |
| 7. | Union Stockyards - West Fargo | 6.0 |
| 8. | Fargo Water Filtration Plant (Fargo) | 5.0 |
| 9. | Minnkota Power Corp. (Grand Forks) | 5.0 |
| 10. | Otter Tail Power Co. (Wahpeton) | 5.0 |
| 11. | Pillsbury Corp - Grand Forks | 3.0 |

SECTION E

Ambient W.Q. Status

.ORITY BAS ACCOMPLISHMENTS: ANNUAL WQ ACCOMPLISHMENTS REPORT

ION VIII CALENDAR YEAR 19 72

Reproduced from best available copy.

DATE SUBMITTED Sep. 1972

:PARED BY Terry L. Anderson (Name) General Engineer (Title) TEL.

:ROVED BY: (Name) (Title) (Initials)

| AREA | POPULATION | RIVER MILES OR AREA EQUIVALENT FOR LAKES, ESTUARIES, ETC. | | | |
|---|---|---|---|---|---|
| | | MEETS STANDARDS (MILES AND/OR AREA) | NOT AT STANDARDS (MILES AND/OR AREA) | BASIN TOTALS (MILES AND/OR AREA) RIVER MILES | AREA IN Total Basin |
| TOTALS: L PRIORITY BASINS IN REGION | | | | | |
| SR1 Red River mainstem only | | 152 | 240 | 392 | |
| Sheyenne Tributary | | 280 | 25 | 305 | |
| SR1 Red Lake Tributary | | 120 | 53 | 173 | |
| Park Tributary | | 70 | 15 | 85 | |
| SR1 | ND 247,000 Minn. 261,000 Tot. 508,000 | 622* | 333* | 955* | ND 19170 Sq.Mi. Minn. ≅ 1/2 total ∴ total = 38340 sq. |

*Estimates - also exclude all tributaries where a water pollution problem was not detected.

P — OF —

93<

TABLE II - AMBIENT WATER QUALITY AT NEAREST DOWNSTREAM MONITORING STATION



Red River of the North Basin

Data from STORET

| | BASIC PARAMETERS - MG/L WHERE APPLICABLE MEAN VALUE ONLY | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FLOW | PH | TEMP °C XXXX°C | DO | TDS | TSS | $NH_3$-$NO_3$ | TOTAL P | (FECAL) (TOTAL) FACT. | GREASE & OIL | TOXIC METALS mg/l µg/l | BOD 5-Day | SPNS. BASE FLOW |
| WATER SOURCES AND R.M. | | | | | | | | | | | | | |
| Bois De Sioux River 68-72 | | 6.8 | 0.0 | 5.2 | 200 | - | - | - | 44 MFM-FCBR | - | - | 1.5 | |
| RM 556 | | 8.0 | 9.6 | 9.9 | 452 | | | | 3382 MFIMENDO | | | 3.9 | |
| Wahpeton 380012 (ND) | | 8.7 | 29.0 | 13.5 | 1055 | | | | | | | 10.6 | |
| Red River RM556 (69-72) | 15 | 6.0 | 0.0 | 5.5 | 232 | | 0 0 | .1 | 250 MFM-FCBR | | Arsenic 0 | .8 | |
| 05051510 | 442 | 8.1 | 9.5 | 9.8 | 311 | | .2 .2 | .2 | | | 2.3 | 2.7 | |
| Wahpeton (EPA-USGS) | 2000 | 8.9 | 27.0 | 15.2 | 448 | | .9 1.3 | .4 | 3560 MFIMENDO | | 7.0 | 5.7 | |
| Red River RM446 (68-72) | | 7.0 | 0.0 | 4.9 | 284 | | | | 3265 MFM-FCBR | | | 1.3 | |
| 380002 | | 7.8 | 9.9 | 8.6 | 414 | | | | | | | 7.0 | |
| Fargo (ND) | | 8.5 | 26.0 | 13.5 | 553 | | | | 90360 MFIMENDO | | | 16.0 | |
| Red River RM 441 (69-72) | 15 | 7.1 | 0.0 | 2.3 | 282 | | 0 0 | .3 | 2400 MFM-FCBR | | Arsenic 0 | 3.1 | |
| 05054020 | 606 | 8.0 | 9.8 | 8.1 | 384 | | 1.3 .5 | 1.5 | | | 3.5 | 8.4 | |
| Below Fargo (EPA-USGS) | 4120 | 9.2 | 27.0 | 12.4 | 743 | | 11.8 2.7 | 13.0 | 27080 MFIMENDO | | 8.0 | 34.0 | |
| Red River RM274 (69-70) | | 7.6 | 0.0 | 8.7 | | 2.0 | 0 0 | .3 | 4230 MPNECMED | | | .9 | |
| RRRR 274 | | 8.0 | 2.4 | 10.4 | | 33.8 | 1.2 .2 | .4 | | | | 2.9 | |
| Oslo, Minn. (Minn.) | | 8.3 | 13.0 | 12.8 | | 440 | .4 .8 | .7 | 15180 MPN COMP | | | 15 | |
| Red River RM296 (67-72) | 742 | 7.2 | 0 | | 208 | | 0 | .03 | | | Arsenic 0 | | |
| 05082500 | 4780 | 7.7 | 8.2 | | 330 | | .3 | .03 | | | 3.9 | | |
| Grand Forks (USGS) | 47500 | 8.3 | 26.0 | | 471 | | 2.0 | .03 | | | 13.0 | | |
| Red River RM296 (68-72) | | 7.2 | 0 | 3.2 | 320 | | | .2 | 41 MFM-FCBR | | | 1.1 | |
| 380003 | | 7.9 | 9.1 | 9.0 | 533 | | | .5 | | | | 3.4 | |
| Grand Forks (ND) | | 8.8 | 24.0 | 14.1 | 1240 | | | 1.0 | 3970 MFIMENDO | | | 17.0 | |
| Red River RM 403 (69-70) | | 7.1 | 0.0 | 0.9 | | 2.0 | 0 0 | .4 | 11100 MPNECMED | | | 1.4 | |
| 260505 | | 7.9 | 2.5 | 7.3 | | 18.2 | .7 .5 | .7 | | | | 7.5 | |
| Perley, Minn. (Minn.) | | 8.6 | 13.0 | 12.2 | | 148 | 1.5 1.1 | 1.1 | 47400 MPN COMP | | | 54 | |

TABLE II - AMBIENT WATER QUALITY AT NEAREST DOWNSTREAM MONITORING STATION

Red River of the North Basin

| | BASIC PARAMETERS - MG/L UNLESS APPLICABLE MEAN VALUE ONLY | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FLOW, | PH | TEMP °C | DO | TDS | TSS | $NH_3$-$ND_3$ | TOTAL P | (FECAL) (TOTAL) FACT. | GREASE & OIL | TOXIC METALS mg/l µg/l | BOD 5-Day | STDS. BASE FLOW |
| MAIN STEMS AND R.M. | | | | | | | | | | | | | |
| Red River RM328 (68-72) | | 7.0 | 0 | | 320 | | | .1 | 190 MFM-FCBR | | | 0.3 | |
| 380004 | | 7.8 | 9.2 | | 455 | | | .3 | | | | 2.6 | |
| Drayton, N.D. (ND) | | 8.7 | 25.0 | | 800 | | | .5 | 6300 MFIMENDO | | | 5.7 | |
| Red River RM158 (68-72) | | 6.5 | 0 | 6.1 | 285 | | | .1 | 122 MFM-FCBR | | | 0.4 | |
| 380005 | | 7.8 | 9.0 | 9.6 | 485 | | | .3 | | | | 2.9 | |
| Pembina, N.D. (ND) | | 8.7 | 24.5 | 14.3 | 1040 | | | .9 | 1430 MFIMENDO | | | 10.0 | |
| Wild Rice River RM123 (67-72) | .05 | 7.1 | 0 | | 110 | | 0 | Phos-D .1 | | | | | |
| 05053000 | 227 | 7.9 | 10.8 | | 1080 | | .2 | .3 | | | | | |
| Abercrombie (USGS) | 9260 | 8.6 | 25.0 | | 2840 | | 1.9 | .6 | | | | | |
| Wild Rice River RM90 (68-72) | | 7.4 | 0.0 | 6.2 | 560 | | | .6 | 10 MFM-FCBR | | | 3.4 | |
| 380006 | | 7.9 | 7.4 | 9.9 | 962 | | | .6 | | | | 5.7 | |
| Cayuga, N.D. (ND) | | 8.3 | 24.0 | 11.9 | 1880 | | | .6 | 343 MFIMENDO | | | 10.3 | |
| Otter Tail RM1-1 (64-69) | | 7.2 | .5 | 6.1 | 290 | 12 | 0 0 | .1 | 1730 MPNECMED .5 | | Arsenic | 1.5 | |
| RROT-1 | | 7.8 | 15.5 | 8.7 | 333 | 73 | .1 .2 | .2 | .5 | | 5.0 | 3.2 | |
| 1 Mile from Mouth (Minn) | | 8.6 | 26.7 | 13.6 | 380 | 230 | .4 1.0 | .4 | 2470 MPN CONF .5 | | | 4.8 | |
| Sheyenne River RM6 (69-72) | 30 | 7.1 | 0 | 3.0 | 260 | | 0 | .1 | | | Arsenic 0.0 | .5 | |
| 05060500 | 420 | 8.0 | 9.6 | 8.2 | 600 | | .5 | .4 | | | 7.4 | 3.8 | |
| Near Harwood, N.D. (USGS) | 3200 | 8.6 | 24.5 | 13.6 | 965 | | 1.3 | 1.0 | | | 20 | 25.0 | |
| Sheyenne RM100 (68-72) | | 6.9 | 0 | 5.0 | 310 | | | .2 | 400 MFM-FCBR | | | 1.4 | |
| 380007 | | 7.9 | 9.5 | 10.1 | 630 | | | .4 | | | | 4.1 | |
| Lisbon, N.D. (ND) | | 8.8 | 24.0 | 15.4 | 1840 | | | 1.4 | 4000 MFIMENDO | | | 16.0 | |
| Sheyenne RM100 (67-72) | 16 | 7.3 | 0.0 | | 293 | | 0 | Phos-D 0 | | | 0 | | |
| 05058700 | 290 | 7.8 | 8.4 | | 555 | | 1.4 | .1 | | | 4.3 | | |
| Lisbon, N.D. (USGS) | 4270 | 8.4 | 28.0 | | 820 | | 6.7 | .3 | | | 20.0 | | |

TABLE II - AMBIENT WATER QUALITY AT NEAREST DOWNSTREAM MONITORING STATION



Red River of the North Basin

| STATION AND R.M. | FLOW | PH | TEMP °C | DO | TDS | TSS | $NH_3$-$NO_3$ | TOTAL P | (FECAL) (TOTAL) FACT. MEAN VAL. ONLY | GREASE & OIL | TOXIC METALS mg/l µg/l | BOD 5-Day | STDS-BASE FLOW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BASIC PARAMETERS - MG/L UNLESS APPLICABLE | | | | | | | | | | | | | |
| Sheyenne RM16 (69-70) 370013 North of West Fargo (ND) | | 7.0<br>8.0<br>8.4 | 0<br>2.7<br>12 | 2.9<br>9.5<br>13.9 | | 2.0<br>24.0<br>184 | 0 0<br>.4 .3<br>2.2 1.3 | .2<br>.4<br>1.6 | 1550 MPNECMED<br>3250 MAN COMP | | | .4<br>3.9<br>14.0 | |
| Goose River RM15 (69-70) 05066500 Hillsboro, N.D. (USGS) | 2<br>40<br>273 | 7.5<br>7.8<br>8.4 | 0<br>8.5<br>24.0 | | 820<br>1160<br>1520 | | | | | | | | |
| Goose River RM15 (71-72) 380027 Hillsboro, N.D. (ND) | | 7.3<br>7.8<br>8.3 | 0<br>10.4<br>22.0 | 5.2<br>9.6<br>13.1 | 430<br>704<br>1040 | | | .2<br>.5<br>1.1 | 377 MFM-FCBR<br>6670MFIMENDO | | | 1.7<br>2.5<br>4.4 | |
| Pembina River RM140 (68-72) 380011 Walhalla, N.D. (ND) | | 7.0<br>7.9<br>8.7 | 0<br>8.5<br>25.0 | 4.8<br>10.2<br>14.3 | 280<br>576<br>800 | | | .1<br>.4<br>.8 | 27 MFM-FCBR<br>1240 MFIMENDO | | | .6<br>2.6<br>6.1 | |
| Pembina River RM140 (67-72) 05099600 Walhalla, N.D. (USGS) | 10<br>615<br>6680 | 6.9<br>7.8<br>8.5 | 0<br>6.6<br>25 | | 245<br>529<br>1200 | | $NO_3$<br>0<br>.7<br>7.7 | Phos-D<br>0<br>.4<br>3.9 | | | Arsenic<br>0.0<br>4.0<br>10.0 | | |
| Red Lake River RM54 (64-65) RRRL-56CBB14A55 56 Miles from Mouth (Minn) | | 7.1<br>7.7<br>8.9 | .5<br>14.6<br>24.4 | 6.4<br>8.1<br>10.8 | | 14<br>167<br>920 | $NH_3$<br>.05<br>.1<br>.3 | .1<br>.5<br>2.5 | 402 MPNECMED<br>1492 MPN COMF | | | 2.0<br>4.3<br>6.8 | |

SECTION F

Tactical Solutions

## TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS

RED RIVER BASIN - SUMMARY

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| About half of the Red River Basin falls within Minnesota which is under the jurisdiction of EPA Region V. Three of the largest dischargers in the basin are located in Minnesota. They are American Crystal Sugar at Crookston, E. Grand Forks and Moorhead. There are about 20 municipalities with populations larger than 1000 which discharge their treated municipal wastes to the Red River Basin. Some of these receiving waters are primary recreation areas.<br><br>To date, our contacts with Region V and the Minnesota State Department of Health have not yielded the information we need to adequately assess the water quality problems for the entire basin and to develop an accomplishment plan strategy that will manage the water quality of the entire basin.<br><br>Although Region VIII does not propose to develop work loads for Region V, the general needs in the Minnesota portion of the Basin have been included herein in order to provide a complete picture of the problem. | (1) Meet with the Regional Administrator for Region V and come to an agreement which will inculcate a working relationship between the two regions for all programs in the Red River Basin. (Management Division-R.A.'s Office) | NOV 72 | NOV 72 | 5T1214 Reg. V | .2 | | | |
| | (2) Inventory all point sources of water pollution in the Minnesota portion of the Red River Basin. | OCT 72 | DEC 72 | Reg. V | | | | |
| | (3) Analyze the water quality impact of each source and assign an allowable waste load to each. | JAN 73 | FEB 73 | Reg. V | | | | |
| | (4) Obtain commitment letters from industry which bind the industry to a specified loading limitation to be accomplished through an implementation schedule. | MAR 73 | JAN 74 | Reg. V | | 1.0 | | |
| | (5) Assess the discharge practices of wastewater treatment plants in Minnesota and recommend alternative methods which would improve water quality throughout the discharge period. | OCT 72 | MAY 73 | Reg. V | | | | |
| | (6) Review Minnesota water quality standards to determine their adequacy in light of pending legislation and compatibility with North Dakota's standards. | MAY 73<br>MAY 73 | JUN 73<br>JUN 73 | Reg. V<br>2B1143 | .5 | | | |
| | (7) Influence North Dakota to conduct meaningful O&M studies and sampling program for wastewater treatment plants in the basin. (A&W DIV Program Support and Program Planning Branches) (S&A Div.-Surveillance and Tech. Support Br.) | JAN 73<br>" "<br>" " | FEB 74<br>" "<br>FEB 73 | 2B8163<br>2B8162<br>2B2147 | .2<br>.3<br>.2 | .2<br>.3 | -<br>-<br>- | -<br>-<br>- |

TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS



RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| | (8) Establish a joint monitoring system of in-stream water quality effluent discharges. (Enforcement Div.-Permits and Enforcement Branches) | OCT 73 | JUN 76 | 3B2124<br>2B2147 | -<br>-<br>- | 5.0<br>2.5 | 1.0<br>1.0 | |
| During winter months, the majority of the Red River of the North is covered with ice. As a result, the DO and coliform concentrations in the river do not meet state standards. To improve this condition, several industrial and municipal wastewater treatment plants have been or are being expanded and upgraded. However, some of these projects are behind schedule. | (1) Encourage state and municipalities to expedite plant construction. (A&M Division - Planning Branch and Municipal Wastewater Branch) | JUL 72 | JUN 73 | 2B3149<br>2B8162 | .05<br>.05 | .2 | | |
| | (2) Coordinate with DFIC on this survey so that appropriate action may be taken if expected improvements do not materialize. Any necessary follow-up may include O&M surveys, operator training or upgrading of facilities. (S&A Division - Technical Support Branch) | DEC 72 | JUN 73 | 2B5154 | 0.5 | 0 | 0 | 0 |
| The Denver Field Investigations Center (DFIC) is committed to a water quality survey covering previously sampled stations on the Red River during 1965 and 1969-1970. Through a comparison of results from earlier studies, this study should determine whether the expected improvement in water quality has occurred as a result of the upgrading of wastewater treatment facilities at Fargo, N.D. Moorhead, Minnesota, and Abercrombie, N.D. | (3) Perform water quality survey and make comparative analysis with the 1965, 1969-1970, and 1972-1973 studies. (S&A Division-Technical Support Branch) | DEC 73 | JUN 74 | 2B5154 | 0 | 4 | 0 | 0 |
| The DFIC survey will take place prior to the completion of all new construction and therefore, an additional water quality survey will be required to document compliance with standards. | (4) Initiate a comprehensive stream and effluent survey to determine a nutrient balance in the Red River of the North. Suggest recommendations for a control program as required by an analysis of survey results. Control programs recommended may include agricultural runoff control or nutrient removal by point sources. (Technical Support Branch-S&A Division) | SEP 73 | JUN 74 | 2B5154 | 0 | 10 | 0 | 0 |

RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - NON - MAN) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|
| A recommendation of the 1965 Conference concerning pollution of the Red River of the North was that nutrient concentrations in the river should be determined and sources located to prevent excessive algae growth and subsequent water quality degradation. Nutrients are thought to enter the river from point sources (industry and municipalities) as well as non-point sources (agriculture).<br><br>Also, the Red River Basin is characteristic in that low flows are common and waste discharges generally occur during spring and fall. North Dakota water quality standards do not apply for DO during the processing season for agricultural products if flows fall below the lowest 10 of all monthly flows of record for either the months of April or May. This DO Standard is not identical to Minnesota but each applies to the main stem of the Red River.<br><br>A significant amount of water quality data is continuously being gathered at Federal, State, and other sampling stations in the Red River Basin. Additionally, situations occasionally arise when further data and/or onsite inspection is required for verification of discharges. All available data is not readily available for use in analyzing water quality needs or improvements.<br><br>Several treatment facilities are being designed to hold treated wastes during the winter and discharge them during the following spring. | (5) | Review N.D. water quality criteria and use classifications to determine their adequacy and resolve differences between N.D. and Minnesota. | May 73 | Jun 73 | 2B1143 | See Page 1, Subtask 6. | | | |
| | (6) | Obtain data from the collecting agency, code and insert into STORET system, and review program. Also, make on-site inspections to verify discharges. (S&A-Surveillance Branch) | SEP 72 | JUN 76 | 2B2146<br>2B2148 | 1 | 1.5 | 2. | 2 |
| | (7) | Analyze the water quality of the Basin using a simplified math model. The model will reflect water quality throughout the basin based upon low flow, waste loading, instream water quality standards, and existing in-stream water quality. (A&W Div.-Program Planning Branch). Update in FY 74. | SEP 72 | OCT 73 | 2B3149 | 1.0 | 1.0 | | |
| | (8) | Utilize DFIC's proposed survey and S&A's survey to see what improvements are being made in the water quality as wastewater control facilities are put into operation and to determine the effects of spring discharge on water quality. (A&W Division-Program Planning-Planning-Program Support Branches) | SEP 73 | OCT 73 | 2B8162<br>2B3149<br>2B4153 | | .25<br>.40<br>.25 | | |
| | (9) | Reconvene the Enforcement Conference and publish report. | FEB 73 | SEP 74 | 3B1123<br>3B1124 | 5.0<br>2.0 | 3.0<br>1.0 | | |
| | (10) | Follow-up on the recommendations coming forth from the Enforcement Conference. | SEP 74<br>SEP 74 | JUN 76<br>JUN 76 | 3B1123<br>3B1124 | 0<br>0 | 2.5<br>1.6 | 1.5<br>.8 | 1.0<br>.8 |
| | (11) | Follow-up on the compliance schedule of Fargo's 180-day notice. | SEP 72<br>SEP 72 | JUN 73<br>JUN 73 | 3B1123<br>2B8102 | .30<br>.15 | .2<br>.1 | | |

TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE [illegible]

RED RIVER BASIN SUMMARY-Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATE | DATES COMPLETE | PROGRAM ELEMENT | MANPOWER REQUIRED (MAN-YEARS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Fargo is under a 180-day notice to construct a holding lagoon to provide winter storage of their effluent. An investigation of the Drayton WWTP will be conducted to determine whether an enforcement action is needed. | (12) Determine the necessity of an enforcement action against Drayton and/or other municipalities/industries. | SEP 72 | JUN 76 | 3B1123 | 1.5 | 1.4 | 1.4 | 1.4 |

TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS

RED RIVER BASIN - SUMMARY Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Fully developed water quality management plans are being developed for the Red River Basin and Fargo-Moorhead SMSA by North Dakota and Minnesota. Little coordination has been established between the two states, Region V and Region VIII. Existing legislation calls for the approval of fully developed water quality management plans by July 1, 1973. New legislation extends this date to July 1974 and requires that areawide planning agencies be designated to conduct water quality planning. North Dakota does not have the planning capability to fulfill the desired role set forth in the new legislation. | (1) Establish inter-region inter-state and inter-community cooperation and coordination for developing an integrated water quality management plan for the Red River Basin to be conducted on a continuing basis. (A&W Division-Program Planning Branch) | NOV 72 | JUN 76 | 2B3149<br>Reg. V | .5 | .6 | .3 | .3 |
| | (2) Monitor the progress of the water quality management plans to assure adequate coverage and detail which will satisfy the requirements of 40CFR35. (A&W Division-Program Planning Branch) | SEP 72 | JUN 76 | 2B3149<br>Reg. V | .4 | .8 | .3 | .3 |
| | (3) Provide assistance to North Dakota and Minnesota as it is needed to fulfill the basin planning requirements. (A&W Division-Program Planning Branch) | SEP 72 | JUN 76 | 2B3149<br>Reg. V | .5 | .6 | .4 | .3 |
| | (4) Review of the Basin Plan for the Red River of the North and the Metropolitan Plan for Fargo-Moorhead on an intra-agency basis. Assure consistency with Minnesota portions. | APR 73<br>APR 73<br>APR 73<br>APR 73<br>APR 73<br>APR 73 | JUL 73<br>JUN 73<br>JUN 73<br>JUN 73<br>JUN 73<br>JUN 73 | 2B3149<br>2B5117<br>3B1123<br>3B2124<br>2B5154<br>Reg. V | .9<br>.3<br>.3<br>.4<br>.3 | .4 | | |
| | (5) Approve the water quality management plans for the Red River Basin and the Fargo-Moorhead SMSA. | JUL 73 | JUL 73 | 2B3149 | .1 | .2 | | |
| | (6) Assess impact of new legislation upon Water Quality Management planning and Facilities Management Grant Program. | SEP 73 | MAY 73 | 2B3149 | .5 | .5 | | |
| | (7) Work with Region V, HUD, States, and Fargo-Moorhead SMSA to plan the best strategy for creating districts that could do water quality management planning under the new legislation. (A&W Div.-Program Planning Br.) | JUN 73 | SEP 73 | 2B3149 | .50 | .7 | | |

RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| American Crystal Sugar - Drayton, N.D.<br><br>Past discharges of flume water have created excessive organic and solids loading. At the last formal meeting with EPA on June 29, 1972, ACS agreed to operate a closed flume system for the 72-73 campaign in order to reduce the $BOD_5$ loading. RAPP guidelines limit $BOD_5$ to 0.5 lb/ton of sliced beet. ACS believes that this is an unrealistic figure because spray irrigation would have to be used exclusively to meet the requirements. Therefore, they feel 1.0 lb/ton represents the best practicable treatment. The plant uses total containment during winter months and utilizes the "spring flush" technique to drain their lagoons. No discharge under ice cover is permitted under EPA guidelines. | (1) Continue to meet with company to settle disagreement on $BOD_5$ loading limitation. | SEP 72 | MAR 73 | 3B2124 | .9 | | | |
| | (2) Obtain additional commitment letter.* | MAR 73 | JUN 73 | 3B2124<br>3B2123 | .30<br>.30 | | | |
| | (3) Monitor stream and effluent to detect pollution levels.<br><br>(Enforcement Div.-Enforcement and Permits Branches) | SEP 73 | MAR 75 | 3B2123 | | .2 | 0.05 | |
| American Crystal Sugar, Moorhead, Minn.<br><br>ACS at Moorhead is a major contributor of $BOD_5$ and TSS to the Red River. However, Region V is responsible for working with this company to establish an effluent requirement that will be compatible with in-stream water quality criteria. To date, such a limitation has not been established. | (1) Meet with Region V, State of Minnesota, and industry to agree upon effluent limitations (should be uniform with other Sugar Beet Mills). | APR 73 | MAY 73 | 3B2124<br>Reg. V | 1.0 | | | |
| | (2) Obtain a commitment letter from the industry. | MAY 73 | JUL 74 | 3B2123<br>3B2124<br>Reg. V | .10<br>.10 | | | |
| | (3) Monitor jointly the effluent and in-stream water quality to determine impact of and compliance with commitments. | JUL 74 | JUN 75 | 3B2123<br>Reg. V | | | .2 | |

*These commitment actions will be converted immediately into permit actions under the new legislation as soon as guidelines are available.

TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS

RED RIVER BASIN SUMMARY, Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 7 |
|---|---|---|---|---|---|---|---|---|
| American Crystal Sugar, E. Grand Forks, Minn.<br><br>ACS at E. Grand Forks is a major contributor of $BOD_5$ and TSS to the Red River. However, Region V is responsible for working with this company to establish an effluent requirement that will be compatible with in-stream water quality criteria. To date, such a limitation has not been established. | (1) Meet with Region V, State of Minnesota, and industry to agree upon effluent limitations (should be uniform with other Sugar Beet Mills). | APR 73 | MAY 73 | 3B2124 Reg. V | 1.0 | | | |
| | (2) Obtain a commitment letter from the industry.* | MAY 73 | JUL 74 | 3B2123<br>3B2124 Reg. V | .10<br>.10 | | | |
| | (3) Monitor jointly the effluent and instream water quality to determine impact of and compliance with commitments. | JUL 74 | JUN 75 | 3B2123 Reg. V | | | .2 | |
| American Crystal Sugar, Crookston, Minn.<br><br>ACS at Crookston is a major contributor of $BOD_5$ and TSS to the Red Lake River, a large tributary of the Red River. However, Region V is responsible for working with this company to establish an effluent requirement that will be compatible with instream water quality criteria. To date, such a limitation has not been established. | (1) Meet with Region V, State of Minnesota, and industry to agree upon effluent limitations (should be uniform with other Sugar Beet Mills). | APR 73 | MAY 73 | 3B2124 Reg. V | 1.0 | 1.0 | | |
| | (2) Obtain a commitment letter from the industry* | MAY 73 | JUL 74 | 3B2123<br>3B2124 Reg. V | .10<br>.1 | | | |
| | (3) Monitor jointly the effluent and instream water quality to determine impact of and compliance with commitments. | JUL 74 | JUN 75 | 3B2123 Reg. V | | | .2 | |

RED RIVER BASIN SUMMARY- Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 7 |
|---|---|---|---|---|---|---|---|---|
| Armour Food-West Fargo, N.D. | | | | | | | | |
| A dye test study by EPA on March 29, 1972, established that some of the waste discharges from the processing operation reach the Sheyenne River instead of being routed to the Fargo Industrial Park sewage treatment facility. Armour has discovered a cross connection in the sewer lines and a collapsed sewer line on the stream bed to be responsible for the discharge. The company will either install a septic tank with an underground disposal field or make a new connection to the industrial park facility. EPA is encouraging the latter alternative. | (1) Negotiate with company and encourage a sanitary sewer hook-up. | OCT 72 | FEB 73 | 3B2124 | .90 | | | |
| | (2) Obtain commitment letter and follow-up with inspection.* | MAR 73 | JUN 73 | 3B2123<br>3B2124 | .20 | | | |
| | (3) Monitor stream and effluent to detect pollution levels. | JUN 73 | AUG 73 | 3B2123 | | .2 | | |
| Fargo, N.D. - Wastewater Treatment Plant | | | | | | | | |
| Located on Red River of the North. Project consists of improvements to the wastewater treatment facilities. Present population approximates 53,000 and a future population of 85,000 is projected for 1992. Currently, the city wastewater is treated by a trickling filter plant which provides approximately 65% reduction of BOD and SS. A six-cell, 500-acre waste stabilization lagoon system is presently under construction to provide further reduction, or tertiary treatment of municipal wastes discharged into the Red River of the North. Nutrient removal is not required at this time. | (1) Finalize construction, inspection, put plant into operation. (Air & Water Div.- Municipal Waste Water Branch) | SEP 72 | SEP 73 | 2B8162 | .1 | 1.0 | | |
| | (2) O&M Inspection. | APR 74<br>" " | APR 74<br>" " | 2B8163<br>2B7160 | | .30<br>.05 | | |
| | (3) Monitoring of in-stream water quality impact (if needed). Surveillance & Analysis) | APR 74 | MAY 74 | 2B2148 | | .25 | | |
| | (4) If it is determined that nutrient removal is required based on the water quality surveys and analyses by S&A & DFIC, influence State and municipality to modify existing facilities** to provide for removal through construction grants aid. (S&A MWW Planning) | APR 74<br>JUL 74<br>Jul 74 | JUN 76<br>JUN 76<br>JUN 76 | 3B1123<br>2B8162<br>2B3149 | | .2 | .2<br>.2<br>.2 | .2<br>.2 |

**Permits for municipal facilities will be used to meet these needs as required.

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Union Stockyards - Fargo<br><br>The stockyards have liquid waste treatment facilities constructed under a Federal research, development and demonstration grant and placed into operation in April 1971. Normal operation routes all wastes to the two-cell lagoon. But, during the winter months, there is no significant pen drainage or track washing. Watering trough overflow combines with the domestic effluet from the septic tank and is bypassed to the river, eliminating the use of a lift station. The organic loading is low (20 mg/l) and would presumably not benefit from treatment in the lagoon system. An acceptable treatment of wastes during winter months is being investigated. Complete winter retention might be achieved by decreasing water trough overflow. | (1) Continue with negotiations and determine effluent requirements. Encourage the company to use better water conservation practices. | AUG 72 | JAN 73 | 3B2124 | .4 | | | |
| | (2) Obtain letter of commitment.* | JAN 73 | MAR 73 | 3B2123 | | .30 | | |
| | (3) Monitor Stream and effluent to detect pollution levels. | JAN 74 | JAN 75 | 3B2124<br>3B2123 | | .60 | .25 | |
| | (Enforcement Div.--Enforcement and Permits Branches) | | | | | | | |
| Fargo, N.D. - Water Treatment Plant<br><br>Project consists of improvements to the sludge handling facilities of the water treatment plant. Currently, 40,000 lbs/day of suspended solids (lime sludge) is being deposited in the Red River. Project is currently out for bids and when construction is complete 40,000 lbs/day of inert dried lime sludge will be deposited in the Fargo Sanitary Landfill. | (1) Award contract, finalize construction, inspection, put plant into operation. (Air & Water Div. - Minicipal Waste Water Branch) | SEP 72 | OCT 73 | 2B8162 | .1 | 1.2 | | |
| | (2) O&M Inspection (Air and Water Div.-Municipal Waste Water Branch) | APR 74<br>APR 74 | APR 74<br>APR 74 | 2B8163<br>2B7160 | | .30<br>.05 | | |
| | (3) Monitoring (if needed by S/A) | SEP 74 | OCT 74 | 2B2148 | | | .30 | |

TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS
RED RIVER BASIN SUMMARY - Continued



| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Minnekota Power Coop., Inc. - Grand Forks<br><br>Lignite or oil is burned to produce steam for this 21,500 kw electrical generation plant. The plant normally on cold stand-by operational basis and has not been used continuously for more than five days in the past eight years. Expected operation is 700 hrs. per year. However, during operation, the discharge is high in total solids concentration. Permits has obtained a letter of commitment from the company concerning another plant outside this basin. Effort will now be shifted to this Grand Forks plant. | (1) Continue meetings with company to develop satisfactory effluent requirements-RAPP Program. | JUN 72 | MAR 73 | 3B2124 | 1.0 | | | |
| | (2) Obtain commitment letter.* | MAR 73 | MAY 73 | 3B2123<br>3B2124 | .4<br>.4 | | | |
| | (3) Monitor effluent and stream after remedial measures are complete.<br><br>(Enforcement Div.--Enforcement and Permits Branches) | JUN 73 | JUN 76 | 3B2123 | | .4 | .05 | .03 |
| Otter Tail Power Company - Wahepton<br><br>Cooling water used in this steam generation electric plant is discharged directly to the Red River. The increase in dissolved salts and thermal degradation impose a threat to the water quality. The COE transferred a copy of their discharge permit to EPA on March 8, 1972. There have been no formal meetings with personnel from this plant as yet to improve the quality of their effluent. Permits anticipates active correspondence to begin late 1972. | (1) Develop effluent criteria through RAPP. Program. | DEC 72 | JUN 73 | 3B2124 | .4 | | | |
| | (2) Obtain Commitment letter.* | JUN 73 | SEP 73 | 3B2123<br>3B2124 | | .3<br>.6 | | |
| | (3) Monitor effluent and stream to detect pollution levels.<br><br>(Enforcement Div.-Enforcement and Permits Branches) | OCT 73 | JUN 75 | 3B2123 | | | 0.05 | |

TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS

RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| USDI Baldhill Dam National Fish Hatchery - Valley City, N.D.<br><br>The COE Permit dated October 5, 1971 describes the hatchery operation as hatching and rearing various species of sport fishes in warm water ponds, feeding the fish on organisms generated through a natural food chain in the rearing ponds. An organic pollution problem is possible from the discharges of fish fecal materia and unused food. To date, no formal contacts have been made with Bureau of Sport Fisheries concerning their conservation practices. Inter-agency cooperation will be obtained to safeguard each agency's interests. | (1) Obtain commitment from Game and Fish to observe conservation practices to minimize pollution load.* | FEB 73 | MAY 73 | 3B2124 | .40 | | | |
| | (2) Monitor effluent and stream to detect potential pollution load.<br><br>(Enforcement Div.-Enforcement and Permits Branches) | JUN 74 | JUN 74 | 3B2123 | | .40 | | |
| USDI Valley City National Fish Hatchery, Valley City, N.D.<br><br>The COE Permit dated October 5, 1971 describes the hatchery operation as hatching and rearing various species of sport fishes in warm water ponds, feeding the fish on organisms generated through a natural food chain in the rearing ponds. An organic pollution problem is possible from the discharges of fish fecal material and unused food. To date, no formal contacts have been made with Bureau of Sport Fisheries concerning their conservation practices. Inter-agency cooperation will be obtained to safeguard each agency's interests. | (1) Obtain commitment from Game and Fish to observe conservation practices to minimize pollution load.* | FEB 73 | MAY 73 | 3B2124<br>3B2123 | .40<br>.40 | | | |
| | (2) Monitor effluent and stream to detect potential pollution load.<br><br>(Enforcement Div.-Enforcement and Permits Branches) | JUN 73 | JUN 74 | 3B2123 | | .40 | | |

RED RIVER BASIN SUMMARY-Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Pillsbury Food - Grand Forks, N.D.<br><br>A COE discharge permit was forwarded to our office on April 17, 1972 for the discharge of air conditioner cooling water to the Red River. The discharge is high in dissolved salts. As yet there is no State standards for DS concentrations; therefore, meeting will be initiated in an attempt to establish a workable DS guideline. All sanitary wastes are diverted to the municipal STP. | (1) Meet with company and State official and develop a DS Standard. | JUL 73 | JUL 74 | 3B2124 | 0 | 1.0 | | |
| | (2) Develop effluent concentrations for plant through RAPP program. | JUL 74 | DEC 74 | 3B2124 | | | 0.2 | |
| | (3) Obtain commitment letter.* | DEC 74 | FEB 75 | 3B2123 | | | 0.15 | |
| | (4) Monitor stream to detect pollution levels.<br><br>(Enforcement Div.-Enforcement and Permits Branches) | FEB 75 | FEB 76 | 3B2123 | | | 0.15 | 0.05 |
| Grafton, N.D.<br><br>Located on the middle fork of the Park River which is a tributary to Red River of the North. The present population is approximately 6000 and a 1990 design forecast of 7000 is expected. The City is currently serviced by a two-cell waste stabilization lagoon which is organically overloaded. The treatment project as proposed in the grant application consists of a 2.25 aerated pretreatment lagoon to treat the organic overload modifications to existing master lift station, and a new lift station with forced main. Plans and specifications currently being prepared. Nutrient removal not required. | (1) Process grant application, make grant, review plans and specifications, begin construction. (Air & Water--Municipal Waste Water Branch) | SEP 72 | OCT 72 | 2B8162 | 1.2 | | | |
| | (2) Finalize construction, inspection, put plant into operation. (Air and Water Div.-Municipal Waste Water Branch) | AUG 73 | AUG 73 | 2B8162 | | 1.2 | | |
| | (3) O&M Inspection. (Air and Water Div.-Municipal Waste Water Branch) | JUN 74 | JUN 74 | 2B8163<br>2B7160 | | .25<br>.05 | | |
| | (4) Monitoring (if needed by S/A). | OCT 74 | OCT 74 | 2B2148 | | | .30 | |
| | (5) If it is determined that nutrient removal is required based on the water quality surveys and analyses by S&A and DFIC, influence the State and municipality to modify facilities to provide for removal through construction grants aid.** (S&A, MWW, Planning). | MAY 74<br>JUL 74<br>" " | JUN 75<br>JUN 75<br>" " | 3B1123<br>2B8162<br>2B3149 | | .15<br>.2<br>.3 | .2<br>.2<br>.2 | |

## TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS

RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Wahpeton, N.D.<br><br>Located on Red River of North. Present population approximates 7100 people with 4500 students attending a local college. The projected 1992 design population will equal 16,500 people. At present, the waste load from the community is handled by a two-cell waste stabilization lagoon and is organically overloaded. The proposed project will consist of the addition to the existing lagoon system of an aerated cell. The aerated cell will considerably reduce the organic load to the lagoon system. Project is currently out for bids. Nutrient removal not included. | (1) Continue processing construction oriented activities, contract award, finalize construction, inspection, put plant expansion into operation. (Municipal Waste Water Branch-Air & Water Div.) | SEP 72 | AUG 73 | 2B8162 | .3 | .5 | | |
| | (2) O&M Inspection. (Air and Water Div.-Municipal Waste Water Branch) | MAY 74<br>" " | MAY 74<br>" " | 2B8163<br>2B7160 | | .30<br>.05 | | |
| | (3) Monitoring if necessary by S/A. | OCT 74 | OCT 74 | 2B2148 | | | .3 | |
| | (4) If nutrient removal is required based on the water quality surveys and analyses by S&A and DFIC, influence the State and municipality to provide for removal through construction grant aid. (S&A, M&W, Planning). ** | JUL 74<br>" "<br>" " | JUN 75<br>JUN 76<br>JUN 76 | 3B1123<br>2B8162<br>2B3149 | | | .3<br>.2<br>.2<br>.2 | <br><br>.2<br>.2 |
| Abercrombie, N.D.<br><br>Located on the Red River of the North. The 1970 population is listed at 260 with 350 people projected for 1990. Currently the town is served by septic tanks and cesspools. The town is presently planning a sewer system and has requested a construction grant for a lift station with force main and a two-cell waste stabilization lagoon system. A construction grant has been processed and plans and specifications are currently being prepared. | (1) P&S review, contract award, finalize construction, put plant into operation and inspection of facilities. (A&W Div.-Municipal Waste Water Branch) | SEP 72 | JUN 73 | 2B816Z | 1.0 | | | |
| | (2) O&M Inspection (A&W Div.-Municipal Waste Water Branch) | MAY 74<br>" " | MAY 74<br>" " | 2B8163<br>2B7160 | | .30<br>.05 | | |

RED RIVER BASIN SUMMARY-Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Park River, N.D.<br><br>Located on the South Branch of the Park River which is tributary to the Red River of the North. The 1970 population in Park River by official census was 1,680, and by the year 1990 a population of 2,200 is anticipated. The present treatment facilities consist of a one-acre aerated lagoon followed by one 20 and one 10-acre waste stabilization ponds operated in series. The present project consists of a lift station with force main which services an annexed area previously utilizing septic tanks. Construction on project is essentially complete. | (1) O&M Inspection.<br><br>(Air & Water Div.-Municipal Waste Water Branch) | SEP 72<br>" " | OCT 72<br>" " | 2B8163<br>2B7160 | .30<br>.05 | | | |
| Arenia, N.D.<br><br>Located on the Rush River which is tributary to Red River of the North. The town presently is served by septic tanks and cesspools. The 1970 population was reported as 100 people with a 1990 population of 150 people expected. The proposed project will consist of a sewage collection system and a two-cell waste stabilization lagoon operated in series. | (1) Pre-application review and conference. (Air and Water Div.-Municipal Wastewater Branch, Planning Branch) | FEB 73<br>" " | FEB 73<br>" " | 2B8162<br>2B3149 | .2<br>.2 | | | |
| | (2) Processing of grant application, grant offer, P&S review, contract award, finalize construction, put plant into operation and inspection. (Air and Water Div.-Municipal Waste Water Branch) | APR 73 | OCT 73 | 2B8162 | 1.0 | 1.2 | | |
| | (3) O&M Inspection. (A&W Div.-Municipal Waste Water Branch) | MAY 74<br>" " | MAY 74<br>" " | 2B8163<br>2B7160 | | .30<br>.05 | | |

RED RIVER BASIN SUMMARY-Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Valley City, N.D.<br><br>Located on the Sheyenne River which is tributary to Red River of the North. The 1970 city population was reported at 7,843 with the 1970 project area population recorded at 52. The 1992 projected city population is 10,000 with 100 people to be served by the project area. The project will consist of a lift station and force main to handle waste contributions from an area previously unsewered. Ultimate treatment of sewage will be provided by a two-cell waste stabilization lagoon system. | (1) Continue processing construction activities, put plant into operation, inspection. (A&W Div.-Municipal Waste Water Branch) | AUG 72 | AUG 72 | 2B8162 | .3 | | | |
| | (2) O&M Inspection. (A&W Div.-Municipal Waste Water Branch) | AUG 73<br>AUG 73 | AUG 73<br>AUG 73 | 2B8163<br>2B7160 | | .30<br>.05 | | |
| | (3) If nutrient removal is required based on the water quality surveys by S&A and DFIC, influence State and municiplaity to provide for removal through construction grant aid. (S&A, MWW, Planning). | JUL 74<br>" "<br>" " | JUN 75<br>" "<br>" " | 2B1123<br>2B8162<br>2B3149 | | | 0.2<br>0.2<br>0.2 | 0.2<br>0.2 |
| Five-Year Needs List<br><br>Currently, there are six projects on the North Dakota 5-year needs list which are in the Red River of the North drainage basin. They are as follows:<br><br>1) Fargo, N.D.<br>2) Grafton, N.D.<br>3) Grand Forks, N.D.<br>4) Valley City, N.D.<br>5) Warpeton, N.D.<br>6) West Fargo<br><br>Extension of Interceptor Systems — Assumption no data available<br><br>There are no new treatment needs of major significance in the basin forseen at this time with the possible exception of nutrient removal. | (1) Pre-application review and conference. (Air and Water-Municipal Waste Water Branch, Water Quality Planning) | JUN 74<br>JUN 74 | JUN 75<br>JUN 75 | 2B8162<br>2B3149 | | .6<br>.6 | .6<br>.6 | |
| | (2) Processing of application, grant offer, P&S review, contract award, construction, inspection, put plant into operation. (A&W-Municipal Waste Water Section) | JUN 75 | JUN 76 | 2B8162 | | 3.0 | 3.0 | |
| | (3) O&M Inspection. (Air and Water Div.-Municipal Waste Water Branch) | JUN 75<br>JUN 75 | JUN 76<br>JUN 76 | 2B8163<br>2B7160 | | 1.00<br>.15 | 1.00<br>.15 | |
| | (4) Provide for nutrient removal as noted previously on a case-by-case basis. ** | | | | | | | |

## TABLE III - INTEGRATED BASIN TACTICAL SOLUTION AND RESOURCE REQUIREMENTS

RED RIVER BASIN SUMMARY-Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| | (7) Assess impact of new legislation upon the Facilities Management Grants Program. (A&W Division-Program Planning Branch) | APR 73 | MAY 73 | 2B3149 | .25 | | | |
| State Program Plan:<br><br>Yearly, the EPA reviews and assesses North Dakota's water program. A State Program Plan is submitted to EPA as a requirement to obtain supplemental funding from EPA for the State's program. The program plan contains information which can assist other EPA operations. | (1) Coordinate State Program Plans with Basin water quality management planning and construction grants (i.e., one and five year needs list, implementation schedule, standards, program reviews). (A&W Division-Program Planning, Program Support Branches) | OCT 72<br>OCT 72<br>OCT 72 | JUN 76<br>JUN 76<br>JUN 76 | 2B3149<br>2B8162<br>2B4153 | .5<br>.25<br>.25 | .5<br>.25<br>.25 | .4<br>.25<br>.2 | .4<br>.25<br>.2 |
| | (2) Update one and five year needs list. | OCT 72<br>OCT 72<br>OCT 72 | JUN 76<br>JUN 76<br>JUN 76 | 2B8162<br>2B4153<br>2B2146 | .3<br>.3<br>.3 | .3<br>.3<br>.3 | .3<br>.3<br>.3 | .3<br>.3<br>.3 |
| | (3) Approve North Dakota State Program Plan | SEP 72 | JUN 76 | 2B4153 | 1.0 | 1.0 | 1.0 | .0 |
| Construction Grants Administration:<br><br>For each new municipal wastewater facilities grant application, about one man-month is spent processing the application for administrative purposes. | (1) Process seven new applications and complete seven others. (See page 9 of Figure 7 | SEP 72 | JUN 76 | 2B8316 | 2.0 | 3.0 | 3.0 | 3.0 |
| EIS Reviews:<br><br>Environmental assessments are written for each construction grant project and each water quality management plan. They need to be reviewed to determine whether an EIS will be needed or a negative declaration can be issued. | (1) Review two water quality management plans and seven construction grant applications. | SEP 72 | JUN 76 | 2B6117 | 1.5 | 1.0 | 1.0 | 1.0 |

RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - MOS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| Planning Review of Construction Grant Applications:<br><br>Too often construction grant applicants are not fully aware of the planning aspects of the proposed project. Also, it is a Federal regulation (40CFR601) that planning criteria be met prior to offering a grant. | (1) Review construction grant applications for conformance to water quality management plan, compliance to water quality standards, and environmental impact. (P&W Division-Program Planning Branch) | SEP 72 | JUN 76 | 2B3149 | .6 | 1.3 | 1.0 | .5 |
| Public demand for environmental news:<br><br>The success of the environmental program in Region VIII is dependent upon public backing and awareness. Also, public cooperation helps EPA fulfill its regulatory responsibilities. As of yet, we have not gained the full backing of the people we represent (e.g. the majority do not know that we exist). | (1) Keep the public aware of EPA activities and environmental problems within the Red River Basin via the news media. | SEP 72 | JUN 76 | 5T1214 | .5 | .5 | .5 | .5 |
| | (2) Encourage Headquarters to finance the cost of producing documentary film on water quality management of rivers in the Rocky Mountain Region which would include the Red River of the North. (Management Division-Public Affairs). | SEP 72 | NOV 72 | 5T1214 | .25 | - | - | - |
| Manpower and Training:<br><br>O&M of wastewater treatment plants determine whether or not plant efficiency will be maintained at their design level. Most wastewater treatment plant operators are not educated to operate plants correctly. Consequently, training needs to be provided which will fill this gap. | (1) Monitor 5(g)1 training course for approx. 20 WWTP operators in Wahpeton, N.D. area. | SEP 72 | DEC 72 | 2B7158 | 0.3 | - | - | -- |
| | (2) Monitor 5(g)1 training course for approx. 15 WWTP operators in Grand Forks, N.D. area. | JAN 73 | JUN 73 | 2B7158 | 0.3 | - | - | - |
| | (3) Continue training support in Red River of the North area. | SEP 72 | JUN 76 | 2B7158 | 0.4 | 1 | 1 | 1 |
| | (4) Coordinate Field Study Training Program for wastewater treatment plant operators. | SEP 72 | JUN 76 | 2B7158 | 0.1 | 0.1 | 0.1 | 0.1 |
| | (5) Work with State on developing manpower planning function. | SEP 72 | JUN 76 | 2B7161 | 0.2 | 0.2 | 0.2 | .2 |
| | (6) In-house manpower planning-employment and training project. | SEP 72 | JUN 76 | 2B7161 | 0.5 | 0.5 | 0.5 | .5 |

RED RIVER BASIN SUMMARY - Continued

| SITUATION ANALYSIS | RECOMMENDED ACTIONS BY SUB TASK & ORGANIZATION RESPONSIBILITY | DATES INITIATION | DATES COMPLETION | PROGRAM ELEMENT | MANPOWER REQUIRED (PROF - MAN - YRS) FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|
| (1) The Garrison Reservoir Water Project will result in water being diverted to the Red River Basin for irrigation purposes. (projected for 1978)<br>(2) Authorized COE reservoir on Sheyenne River near Kindred, N.D.<br>(3) Authorized COE reservoir on Wild Rice River near Twinn Valley, Minn.<br>(4) Proposed COE reservoir on Pembina River near Park River, N.D.<br>(5) Proposed COE reservoir on Red Lake River near Crookston, Minn.<br>Major water resources such as these effect water quality in the basin. Precaution must be taken to minimize the environmental detriments resulting from each project. | (1) Assess the water quality impact of the proposed project and work with the Bureau of Reclamation to minimize the deleterious effects during the remaining interim planning stages. (A&W Division-Program Planning Branch) | SEP 72 | JUN 76 | 2B3149 | .2 | .4 | .4 | .4 |
| | (2) Coordinate with the Bureau of Recreation in the development and/or review of the EIS for each project. (A&W Division-Program Planning Branch) | JAN 73 | JUN 76 | 2B6117 | .3 | .3 | 1.0 | 1.5 |
| | (3) Evaluate the effects of each COE project's induced flow regulation on accomplishment plant objectives. Work with COE to minimize the deleterious effects during the remaining interim planning stages. (Program Planning Branch-A&W Division) | JUL 74 | JUN 76 | 2B3149 | - | - | 1.0 | 2.0 |
| Each project that uses Federal monies for construction must be cleared under the Equal Employment Act. | (1) Determine whether 7 construction grant projects satisfy the Equal Employment Act requirements. | SEP 72 | JUN 75 | 5T1214 | .25 | .75 | .75 | |
| Each Refuse Act Permit must be processed and put on the computer for retrieval and inter-office use. | (1) Process Permit Applications and Set up data bank. | SEP 72 | JUN 76 | 3B2124 | 1.0 | 2.2 | 2.0 | 2.0 |

SECTION G

Point Source Reductions Required

TABLE V - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: American Crystal Sugar, Drayton

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTIONS (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE V) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Resolve problem with $BOD_5$ loading limitation and monitor to assure compliance with commitments. | 65,800 #/day | | 60794 | | 2750 | | 5.7 mg/l max | No instream standard | | | | |
| TSS | | 16,171 #/day | | 13420 | | | | No data | No instream standard | | | | |
| D.O. | | | | | | | | No data | | | | 5 mg/l | |
| Total Coliform | | | | | | | | 6300/100 ml (mean) | | | | 5M/100ml | |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: American Crystal Sugar, E. Grand Forks

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (From TABLE III) | (See TABLE I) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | (See TABLE II) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | |
| $BOD_5$ | Work with Region V to establish effluent requirements and obtain commitments. | 75,000 #/day | Determination will be made regarding needed reductions. | | | | | 17 mg/l | No N.D. instream Standard. | | | | | |
| TSS | | 2,600 | | | | | | 148 mg/l | No N.D. instream Standard. | | | | | |
| DO | | | | | | | | 3.2 mg/l | | | | | 5mg/l | |
| Total Coliform | | | | | | | | 3970/100 | | | | | 5000/100ml | |
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TAB[illegible] - WATER QUALITY [illegible] TOWARD COMPLETION OF ACTION ITEMS

INDIVIDUAL [illegible]CE OR CLUSTER [illegible]: American Crystal Sugar, Moorhead, Minnesota

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION: | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| | (From TABLE III) | (See TABLE I) | | | | | | (See TABLE II) | | | | | |
| $BOD_5$ | Work with Region V to establish effluent requirements and obtain commitments. | 118,000 #/day | Determination will be made regarding needed reductions. | | | | | 34 mg/l | No instream standard | | | | |
| TSS | | 12,500 #/day | | | | | | N.D. | No instream standard | | | | |
| DO | | | | | | | | 2.3 mg/l | | | | 5mg/l | |
| Total Coliform | | | | | | | | 27,000/100 | | | | 5000/100ml | |
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TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: American Crystal Sugar, Crookston, Minn.

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (From TABLE III) | (See TABLE I) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | (See TABLE II) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | |
| $BOD_5$ | Work with Region V to establish effluent requirements and obtain commitments. | 125,000 #/day | Determination will be made regarding needed reductions. | | | | | No downstream station. | | | | | | |
| TSS | | 25,200 #/day | | | | | | | | | | | | |
| DO | | | | | | | | | | | | | | |
| Total Coliform | | | | | | | | | | | | | | |

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Fargo WWTP

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| | (From TABLE III) | (See TABLE I) | | | | | | (See TABLE II) | | | | | |
| BOD5 | Improvements under construction | 3500 #/d | | | | 2300 | | 14 mg/l | No instream standard | | | | |
| TSS | | 4200 #/d | | | | 2450 | | No data | No instream standard | | | | |
| DO | | | | | | | | 2.3 | | | | | 5mg/l |
| Total Coliform | | | | | | | | 27,000/100 (mean) | | | | | 5M/100ml |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Union Stockyards, West Fargo

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (From TABLE III) | (See TABLE I) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | (See TABLE II) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| $BOD_5$ | Determine effluent requirements and monitor progress. | 782 #/d | Determination will be made regarding needed reductions. | | | | | 14.0 mg/l | No instream standard | | | | |
| TSS | | 5000 #/d | | | | | | 184 mg/l | No instream standard | | | | |
| DO | | | | | | | | 2.9 mg/l | | | | | 5mg/l |
| Total Coliform | | 965/100 | | | | | | 3250/100 | | | | | 5M/100ml |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Fargo Water Filtration Plant

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE I) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Improvements under construction | | | | | | | 34 mg/l | No instream standard | | | | |
| TSS | | 40,000 #/D | | | 40M #/D | | | No data | | | | | |
| DO | | | | | | | | 2.3 | | | | 5mg/l | |
| Total Coliform | | | | | | | | 27,000/100 (mean) | | | | 5M/100ml | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| *Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O Standard does not apply. | | | | | | | | | | | | | |
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TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Armour Food - West Fargo

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| | (From TABLE III) | (See TABLE I) | | | | | | (See TABLE II) | | | | | |
| $BOD_5$ | Obtain commitments and negotiate with company to encourage a sanitary sewer hook-up. | 5.4 #/d | Determination will be made regarding needed reductions. | | | | | 14.0 mg/l | No instream standard | | | | |
| Suspended Solids | | 2.6 #/d | " | | | | " | 184 mg/l | No instream standard | | | | |
| D.O | | | " | | | | " | 2.9 mg/l | | | | | 5mg/l |
| Total Coliform | | 19,300/100 ml. | " | | | | " | 3250/100 ml (mean) | | | | | 5M/100ml |

*Standard changes during agricultural products processing season.
If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Otter Tail Power Co., Wahpeton

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTIONS | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (From TABLE III) | (See TABLE I) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | (See TABLE II) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| $BOD_5$ | Obtain commitment letter & monitor progress | 833 #/d | Determination will be made regarding needed reductions. | | | | | 5.7 mg/l | No increase std. | | | | |
| TSS | | 714 #/d | | | | | | no data | " | | | | |
| DO | | | | | | | | 5.5 mg/l | | | | | 5mg/l |
| Total Coliform | | | | | | | | 3560/100 (mean) | | | | | 5M/100ml |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Minnkota Power Coop. - Grand Forks

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE I) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Develop water quality effluent standards and obtain commitments | 1500 #/day | Determination will be made regarding needed reductions. | | | | | 17.0 mg/1 | No in-stream standard | | | | |
| TSS | | 5000 #/day | | | | | | No data | No in-stream standard | | | | |
| DO | | | | | | | | 3.2 mg/1 | | | | | 5mg/1 |
| Total Coliform | | Data not available | | | | | | 3970/100 ml | | | | | 5000/100ml |
| | | | | | | | | | | | | | |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% ~~of all monthly flows of record for either the~~ months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Pillsbury-Grand Forks

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE I) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Develop effluent stds. and obtain commitments letter | 37.2#/day | Determination will be made regarding needed reductions. | | | | | 17.0 mg/l | No instream std. | | | | |
| TDS | | 9160 #/day | | | | | | No data | " | | | .. | |
| DO | | No data | | | | | | 1.1 mg/l | | | | | 5mg/l |
| Total Coliform | | No data | | | | | | 3970/100ml | | | | | 5M/100ml |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all months flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY ENHANCEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: USDI-Baldhill Dam Nat'l Fish Hatchery, Valley City

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE I) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Develop effluent standards and obtain commitment letter | <1 #/day | Determination will be made regarding needed reductions. | | | | | 16 mg/l | No in-stream std. | | | | |
| TSS | | 6 #/day | | | | | | No data | No in-stream std. | | | | |
| DO | | | | | | | | 5.0 mg/l | | | | | 5mg/l |
| Total Coliform | | No data | | | | | | 4000/100ml | | | | | 5000/100ml |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY [illegible] THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: USDI Nat'l Fish Hatchery, Valley City

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (From TABLE III) | (See TABLE I) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | (See TABLE II) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| $BOD_5$ | Develop effluent standards and obtain commitment letter. | <1#/day | Determination will be made regarding needed reductions. | | | | | 16 mg/l | No in-stream standard | | | | |
| TSS | | <1#/day | | | | | | No data | " | " | " | " | " |
| DO | | | | | | | | 5.0 mg/l | | | | 5mg/l | |
| Total Coliform | | No data | | | | | | 4000/100 ml | | | | 5000/100ml | |

*Standard changes during agricultural products processing season. ~~If the flows fall below the average of the lowest 10%~~ of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Abercombie WWTP

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave.) (See TABLE I) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BOD5 | Construct secondary WWTP | 133 #/d | | 119 | | | | nearest downstream station is at Fargo-data ~~without meaning~~ | | | | | |
| TSS | | 156 #/d | | 141 | | | | | | | | | |
| DO | | | | | | | | | | | | | 5mg/l |
| Total Coliform | | no data | | | | | | | | | | | 5M/1000ml |

*Standard changes during agricultural products processing season. If the flows fall below the average of the lowest 10% of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does no apply.

TABLE - WATER QUALITY STRATEGY FOR ATTAINING AND MAINTAINING WQS THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Amenia

| WATER QUALITY PARAMETERS | AGGREGATED ACTIONS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE IV) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Construct new WWTP. | 17 #/day | | | 15 | | | No station on Rush River | No instream WQS | | | | |
| TSS | | 20 #/day | | | 18 | | | | No instream WQS | | | | |
| DO | | | | | | | | | | | | | 5mg/l |
| Total Coliform | | No data | | | | | | | | | | | 5000/100ml |

*Standard changes during agricultural products processing season.
~~If the flows fall below the average of the lowest two~~
of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Wahpeton Wastewater Treatment Plant

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION (From TABLE III) | PRESENT WASTE LOADS (24 hr. - ave) (See TABLE I) | WASTE LOADS REDUCTION (SEE TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | PRESENT WATER QUALITY (See TABLE II) | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | Construct improvements to WWTP | 2100 #/day | | | 2467 | | | 5.7 | No in-stream WQS. | | | | |
| TSS | | 2500 #/day | | | 2760 | | | No data | No in-stream WQS. | | | | |
| DO | | | | | | | | 5.5 mg/l | | | | | 5.0mg/l |
| Total Coliform | | No data | | | | | | 3560/100 ml | | | | | 5000/100ml |

*Standard changes during agricultural products processing season. ~~If the flows fall below the average or the lowest~~ of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Grafton, N.D. - Park River - Red River

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (From TABLE III) | (See TABLE I) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | (See TABLE II) | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | |
| $BOD_5$ | Improvements currently under way. | 1740 #/day | | 570 | | | | 54 mg/l | No in-stream WQS. | | | | | |
| TSS | | 2760 #/day | | 1380 | | | | 148 mg/l | No in-stream WQS. | | | | | |
| DO | | No Data | | | | | | .9 mg/l | | | | | 5mg/l | |
| Total Coliform | | No data | | | | | | 47400/100 ml | | | | | 5000/100ml | |
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*Standard changes during agricultural products processing season. ~~If the flows fall below the average of the lowest 10%~~ of all monthly flows of record for either the months of April or May, whichever is lower, then the D.O. Standard does not apply.

TABLE IV - WATER QUALITY IMPROVEMENT THROUGH COMPLETION OF ACTION ITEMS

INDIVIDUAL SOURCE OR CLUSTER OF SOURCES: Fosston, Minnesota

| WATER QUALITY PARAMETERS | AGGREGATED ACTION ITEMS REQUIRED FOR REDUCTION | PRESENT WASTE LOADS (24 hr. - ave) | WASTE LOADS REDUCTION (SEE TABLE III) | | | | | PRESENT WATER QUALITY | ANTICIPATED WATER QUALITY (7-day-10 year flow) (SEE WQS & TABLE III) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 | | FY 72 | FY 73 | FY 74 | FY 75 | FY 76 |
| | (From TABLE III) | (See TABLE I) | | | | | | (See TABLE II) | | | | | |
| $BOD_5$ | Work with Region V to determine needs. | 9,000 #/day | Needed reductions will be determined | | | | | No data | | | | | |
| TSS | | 10,500 #/day | | | | | | | | | | | |
| DO | | | | | | | | | | | | | |
| Total Coliform | | | | | | | | | | | | | |
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